

UNCLASSIFIED

AD NUMBER

ADB402465

LIMITATION CHANGES

TO:

Approved for public release; distribution is unlimited.

FROM:

Distribution authorized to U.S. Gov't. agencies and their contractors; Critical Technology; MAY 2014. Other requests shall be referred to Air Force Research Lab., Attn: AFRL/RHXM, Wright-Patterson AFB, OH 45433. This document contains export-controlled technical data.

AUTHORITY

711 HPW/OMA memo dtd 4 Oct 2016

THIS PAGE IS UNCLASSIFIED



AFRL-RH-WP-TR-2014-0104

Decision Vulnerability Analysis (DVA) Program

Jeff Doyal
Ball Aerospace & Technologies Corp.
Systems Engineering Solutions
2875 Presidential Drive
Fairborn, OH 45324

Verlin Hinsz, Ph.D.
Hinsz Consulting
4001 32nd St S
Fargo, ND 58104

MAY 2014

FINAL TECHNICAL REPORT

DISTRIBUTION A: Approved for public release.

(STINFO COPY)

**AIR FORCE RESEARCH LABORATORY
711th HUMAN PERFORMANCE WING
AIRMAN SYSTEMS DIRECTORATE
WRIGHT-PATTERSON AIR FORCE BASE, OH
45433 AIR FORCE MATERIEL COMMAND
UNITED STATES AIR FORCE**

NOTICE AND SIGNATURE PAGE

Using Government drawings, specifications, or other data included in this document for any purpose other than Government procurement does not in any way obligate the U.S. Government. The fact that the Government formulated or supplied the drawings, specifications, or other data does not license the holder or any other person or corporation; or convey any rights or permission to manufacture, use, or sell any patented invention that may relate to them.

Qualified requestors may obtain copies of this report from the Defense Technical Information Center (DTIC) (<http://www.dtic.mil>).

AFRL-RH-WP-TR-2014-0104 HAS BEEN REVIEWED AND IS APPROVED FOR PUBLICATION IN ACCORDANCE WITH ASSIGNED DISTRIBUTION STATEMENT.

//SIGNED//

Michael Emard, 2nd Lt
Human-Analyst Augmentation Branch
Airman Systems Directorate
711th Human Performance Wing
Air Force Research Laboratory

//SIGNED//

Louise Carter, Ph.D., DR-IV
Chief, Human-Center ISR Division
Airman Systems Directorate
711th Human Performance Wing
Air Force Research Laboratory

This report is published in the interest of scientific and technical information exchange and its publication does not constitute the Government's approval or disapproval of its ideas or findings.

| | | | | | |
|--|---------------------------------------|-------------------|--|------------------------------------|--|
| REPORT DOCUMENTATION PAGE | | | | Form Approved OMB No. 0704-0188 | |
| <p>Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.</p> | | | | | |
| 1. REPORT DATE (DD-MM-YYYY) 01-05-2014 | 2. REPORT TYPE Final Report | | 3. DATES COVERED (From - To) 1 November 2009 – 1 May 2014 | | |
| 4. TITLE AND SUBTITLE Decision Vulnerability Analysis (DVA) Program | | | 5a. CONTRACT NUMBER FA8650-08-D-6801 | | |
| | | | 5b. GRANT NUMBER | | |
| 6. AUTHOR(S) Jeff Doyal, Ball Aerospace and Technologies Corp. Dr. Verlin Hinsz, Hinsz Consulting | | | 5c. PROGRAM ELEMENT NUMBER 62202F | | |
| | | | 5d. PROJECT NUMBER | | |
| | | | 5e. TASK NUMBER 0030 | | |
| 7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Ball Aerospace & Technologies Corp Systems Engineering Solutions 2875 Presidential Drive Fairborn, OH 45324 | | | 5f. WORK UNIT NUMBER H074 (7184X28W) | | |
| | | | 8. PERFORMING ORGANIZATION REPORT NUMBER | | |
| 9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) Human Analyst Augmentation Branch 711th Human Performance Wing Human Effectiveness Directorate Human-Centered ISR Division Wright-Patterson AFB OH 45433 | | | 10. SPONSOR/MONITOR'S ACRONYM(S) 711 HPW/RHXM | | |
| | | | 11. SPONSOR/MONITOR'S REPORT NUMBER(S) AFRL-RH-WP-TR-2014-0104 | | |
| 12. DISTRIBUTION / AVAILABILITY STATEMENT DISTRIBUTION STATEMENT A. Approved for public release | | | | | |
| 13. SUPPLEMENTARY NOTES 88ABW Cleared 09/20/2016; 88ABW-2016-4653. | | | | | |
| 14. ABSTRACT (200 word limit) This report outlines the research and development activity performed on the Air Force's Decision Vulnerability Analysis program. In an effort to enhance the Air Force's ability to perform behavioral influences analysis, researchers developed an approach and a tool to aid analysts in developing organizational profiles. Rooted in well-established organizational theories, this Organizational Profiling Tool for Influences Analysis (OPTIA) is designed to help analysts take a systematic approach to investigating and documenting the structure and functioning of organizations they investigate. The OPTIA provides detailed question sets intended to help analysts understand key organizational characteristics, configurations, and subsystem performance and vulnerability. It also allows analysts to rate various organizational attributes, document rationale for the assessments, enter confidence ratings, link to summaries of related literature, and create hyperlinks to evidence that supports their assessments. The design and development of the OPTIA is fully described in this report. The report concludes with a discussion of the potential for extending current analyst capabilities by developing tool that assists them in identifying specific organizational vulnerabilities that could be exploited using influence tactics. | | | | | |
| 15. SUBJECT TERMS behavioral influences analysis, decision vulnerability analysis, OPTIA, organizational decision making, organizational functioning, organizational structure, organizational behavior profile, organizational vulnerabilities | | | | | |
| 16. SECURITY CLASSIFICATION OF: | | | 17. LIMITATION OF ABSTRACT | 18. NUMBER OF PAGES | 19a. NAME OF RESPONSIBLE PERSON Lt Michael Emard |
| a. REPORT U | b. ABSTRACT U | c. THIS PAGE U | SAR | 330 | 19b. TELEPHONE NUMBER (include area code) |

Standard Form 298 (Rev. 8-98)
Prescribed by ANSI Std. Z39-18

TABLE OF CONTENTS

| | |
|--|----|
| List of Figures | iv |
| List of Tables | iv |
| SUMMARY | 1 |
| 1.0 INTRODUCTION | 2 |
| 1.1 Program Overview | 2 |
| 1.2 Program Scope and Objectives | 2 |
| 1.3 Background: Organizational Structure and Functioning | 3 |
| 2.0 THE BEHAVIORAL INFLUENCES ANALYSIS WORKSHOP | 6 |
| 2.1 Participants..... | 6 |
| 2.2 Workshop Objectives..... | 6 |
| 2.3 Workshop Process..... | 6 |
| 2.4 Workshop Outcome | 10 |
| 2.4.1 Consideration of the Systems View..... | 10 |
| 2.4.2 Expanding to Consider Structure..... | 12 |
| 3.0 A CONCEPTUAL MODEL FOR AN ORGANIZATIONAL ANALYSIS TOOL | 14 |
| 3.1 A Multi-Layered Approach..... | 14 |
| 3.2 A Conceptual Organizational Analysis Tool | 15 |
| 4.0 DEVELOPING THE OPTIA TOOL | 18 |
| 4.1 Overview of the OPTIA Design and Content | 18 |
| 4.1.1 Introductory Material..... | 18 |
| 4.1.2 Description and Characteristics | 21 |
| 4.1.3 Organizational Configuration | 25 |
| 4.1.4 Organizational Subsystems..... | 26 |
| 4.1.5 Subsystem Functioning | 28 |
| 4.1.6 Summary Graphics | 30 |
| 4.1.7 Additional OPTIA Functions..... | 33 |
| 4.1.8 Hidden Setup and Response Worksheets | 34 |
| 4.2 Initial OPTIA Evaluation..... | 36 |
| 5.0 THE ORGANIZATIONAL VULNERABILITY WORKSHOP | 38 |
| 5.1 Participants..... | 38 |
| 5.2 Workshop Objectives..... | 38 |
| 5.3 Workshop Process..... | 39 |
| 5.3.1 Framing the problem | 39 |

| | | |
|---|----------------------------|----|
| 5.3.2 | Describing Challenges..... | 40 |
| 5.3.3 | Convergence | 41 |
| 5.4 | Workshop Outcomes..... | 42 |
| 6.0 | DISCUSSION..... | 45 |
| 6.1 | Accomplishments..... | 45 |
| 6.2 | Lessons Learned..... | 46 |
| 6.3 | The Way Ahead | 47 |
| 7.0 | CONCLUSION..... | 49 |
| 8.0 | REFERENCES | 53 |
| 9.0 | LIST OF ACRONYMS | 50 |
| APPENDIX 1 - OPTIA Question Sets..... | | 54 |
| APPENDIX 2 - Relevant Research Literature Summaries Pertaining To Optia Questions | | 64 |

LIST OF FIGURES

| <u>Figure</u> | | <u>Page</u> |
|---------------|--|-------------|
| 1 | The Five Basic Components of an Organization | 13 |
| 2 | A Representation of the Multi-Layered Approach to the Conceptual Model..... | 15 |
| 3 | A Representative Question Assessing Organizational Subsystem Attributes | 17 |
| 4 | OPTIA Distribution Statement Worksheet | 19 |
| 5 | About this Workbook Worksheet | 20 |
| 6 | Analysis Overview Worksheet | 21 |
| 7 | Organizational Description Worksheet (Truncated) | 22 |
| 8 | Organizational Characteristics Worksheet (Truncated)..... | 23 |
| 9 | A Truncated Example of a Related Research Summary Available via Hyperlink | 24 |
| 10 | Organizational Configuration Worksheet (Truncated) | 26 |
| 11 | Depiction of the Knowledge, Skills, and Abilities Subsystem Worksheet (Truncated) | 28 |
| 12 | System Functioning Worksheet (Truncated) | 30 |
| 13 | Graphical Representation of the Subsystems' Influences on the Organization's Strategic Functions of Goal Setting, Planning and Execution..... | 31 |
| 14 | Graphical Representation of the Summary Judgments of the Effectiveness, Vulnerability, and Understanding of the Subsystems' as Judged by Analysts..... | 32 |
| 15 | Graphical Depiction of the Resemblance of the Organization to Pure Organizational Forms | 33 |
| 16 | Summary of Rated Power and Influence of Organizational Components..... | 33 |
| 17 | Organizational Characteristics Setup Screen | 35 |
| 18 | Organizational Characteristics Response Worksheet | 36 |
| 19 | A Notional Framework for Organizational Vulnerability | 43 |

TABLE OF TABLES

| <u>Table</u> | | <u>Page</u> |
|--------------|--|-------------|
| 1 | Listing of Systems of Organizational Functioning Developed During the Workshop . | 9 |
| 2 | Listing of Organizational Characteristics Generated During the Workshop..... | 10 |
| 3 | Framework for Representing the Mapping of the Organizational Systems Generated at the Workshop to the Organizational Subsystems of Katz and Kahn | 11 |

ACKNOWLEDGEMENTS

The authors would like to thank Dr. Janet Sutton, Mr. Mike Pietryga, and Ms. Laurie Fenstermacher of the 711 HPW/RHX who sponsored this work and served as project leads for the Air Force. Their encouragement, insights, and focus on the end user were invaluable in moving this project forward. In addition, we would like to thank Mr. Hal Moon, Mr. James Morris, Mr. Rob Mussen, and Ms. Beth Waina from National Air and Space Intelligence Center (NASIC) for their support and guidance during the development of the Organizational Profiling Tool. For Influences Analysis (OPTIA) tool helped ensure that the end product would be highly beneficial to analysts in their organization. Finally, we would like to thank the members of the workshops. Dr. Robert Ginnett, Dr. Dan Ilgen, Dr. Rich Klimoski, Dr. Bob Lount, and Dr. Joan Rentsch contributed to the initial Behavioral Influences Analysis (BIA) workshop and helped identify a theoretical foundation for the work that followed. Dr. Denise Rousseau, Dr. Richard Klimoski, Dr. Ruth Kanfer, Dr. Kip Williams, Dr. Kent Halverson, and D.J. Picard helped in our attempt to characterize organizational vulnerabilities.

SUMMARY

This report outlines the research and development activity performed on the Air Force's (AF) Decision Vulnerability Analysis (DVS) program. In an effort to enhance the AF's ability to perform Behavioral Influences Analysis (BIA), researchers developed an approach and a tool to aid analysts in developing organizational profiles. Rooted in well-established organizational theories, this Organizational Profiling Tool for Influences Analysis (OPTIA) is designed to help analysts take a systematic approach to investigating and documenting the structure and functioning of organizations they investigate. The OPTIA provides detailed question sets intended to help analysts understand key organizational characteristics, configurations, and subsystem performance and vulnerability. It also allows analysts to rate various organizational attributes, document rationale for the assessments, enter confidence ratings, link to summaries of related literature, and create hyperlinks to evidence that supports their assessments. The design and development of the OPTIA is fully described in this final report. The report concludes with a discussion of the potential for extending current analyst capabilities by developing tool that assists them in identifying specific organizational vulnerabilities that could be exploited using influence tactics.

1.0 INTRODUCTION

1.1 Program Overview

A key objective of ongoing BIA efforts is to “recommend information-based or kinetic methods to influence behaviors by managing adversary perceptions and providing relevant behavioral incentives or disincentives” (Jannarone, 2012: Slide 8). In order to effectively manage these perceptions and to provide effective incentives or disincentives, one must fully understand the adversary organization. To that end, intelligence analysts continually study potential adversaries, creating detailed organizational behavior profiles that can be used to help understand the organizations and to exploit potential avenues of influence. These avenues of influence are derived from an understanding of the complex interaction among a variety of individual, group and organizational factors (e.g., human information processing limitations, organizational constraints, group process and procedures, cultural factors). The AF’s 711th Human Performance Wing, Human Effectiveness Directorate (711 HPW/RH) is actively pursuing research that will enhance capabilities for anticipating, forecasting, and influencing actor behavior patterns for which a key component of success is an understanding of the adversary decision calculus. BIA provides a vital portion of these analytic constructs.

As described in this report, the DVA program, led by the Human Analyst Augmentation Branch (711 HPW/RHXM), focused on the process and products of BIA. Program researchers explored BIA concepts and developed methods and tools that can enhance AF strategic and tactical planning and decision making. It is expected that going forward these concepts will also aid the efforts of other agencies and research programs that focus on behavioral influences and behavioral effects targeting.

A key DVA program goal was to develop a tool that incorporates leading research in the organizational sciences to aid BIA analysts in the development and maintenance of organizational behavior profiles. To the extent that BIA analysts understand an organization’s structure and functioning, they should be able to identify both strengths and weaknesses that reflect potential pathways for influencing organizational decisions. This understanding can also reveal organizational members’ beliefs, attitudes and behaviors driving the decisions.

The development of accurate, comprehensive, and useful organizational behavioral profiles is essential for analysts to identify potential vulnerabilities. Thus, the organizational behavior profiles rest upon analysts’ representations of organizational structure and functioning. These representations feed DVMs, which provide a “structure that relates indicators of human social and psychological characteristics in their surrounding context to aspects of group functioning that could be exploited for a desired influence effect” (Smith, Sieck, Weaver, & Sticha, 2009). Consequently, knowing how organizations are structured and function is critically important for analytic efforts directed at organizational decision making and behavior.

1.2 Program Scope and Objectives

The DVA program encompasses the needs of the BIA analyst community as a whole; however, research and development efforts focused on the stated needs of analysts within NASIC’s BIA flight at Wright-Patterson Air Force Base (AFB). Research focused on developing an analysis tool that will facilitate the production of comprehensive organizational behavior profiles.

Early discussions with BIA analysts at NASIC indicated that a conceptual model and an accompanying tool for consistently and comprehensively “typing” organizations, grounded in organization science theory, would provide a much needed foundation for developing organizational profiles. In developing such a tool, the DVA program had several key objectives. These included 1) organizing and conducting a BIA workshop that stimulates collaboration between organization science researchers and BIA practitioners, 2) developing BIA models that draw upon organization science research to identify potential avenues of influence as a function of organizational structure and functioning, and 3) developing a prototype tool that implements the BIA models developed under this project.

This final report documents activity performed in meeting these three objectives. In particular, we describe the formulation of the concept for a comprehensive, theoretically-based approach to understanding organizational structure and function, the concept for instantiating this approach in an analyst tool, and the form and function of the tool that was developed.

1.3 Background: Organizational Structure and Functioning

Organizations have long been the focus of research in management and psychology because they serve critical functions in our lives (Miner, 2006). Additionally, because we can perceive the structure of organizations and because organizations vary widely in their structures, we tend to believe that organizational structure influences organizational functioning (Mintzberg, 1979).

The relationship between organizational structure and functioning has been a topic of organizational theory, organizational sociology, and organizational behavior research for decades. However, research on this relationship has been relatively inactive since approximately 1980 (Usdiken & Leblebici, 2002). Instead of furthering the conceptualizations of organizational structure, design, and function, research has focused on the characteristics of organizations that influence how they operate and function (e.g., centralization, environmental turbulence, diversity of the management team). Usdiken and Leblebici (2002) describe potential reasons why this research area has become inactive, but regardless of the reasons, the reality of the relative inactivity is apparent.

Prior to the current period of inactivity, there were several decades in which the relationships between organizational structure and functioning had been investigated. Perhaps the most obvious aspect of this research was Weber’s (1922/1968) delineation of bureaucracy as a more rational approach to organizational design. Weber’s work was preceded by the theoretical work of Marx (1867/1996) and others. For example, Frederick Taylor (1911) suggested a more direct way to influence organizational functioning was to engineer the job to maximize human production and eliminate inefficiencies. A generation later, the human relations approach to management (Roethlisberger & Dickson, 1939) suggested putting the human element back into organizations rather than focusing merely on the positions that humans inhabit. MacGregor (1960) extended these notions to suggest that the “Theory Y” approaches to organizational behavior would provide a more humane and beneficial way of directing organizational functioning. From Europe, the socio-technical approach (Emery & Trist, 1973) suggested that a broader view of organizations that included an emphasis on the environment and the means by which work was conducted needed to be considered. All of these more conceptual and theoretical efforts provide a basis for much of our current understanding of the relationships between organizational structure and functioning. However, the key point to recognize is that since about 1980 there has been little analysis of the relationship between structure and

organizational functioning. Instead, investigations have turned from the more conceptual to the more empirical.

More recent decades have seen increased empirical examination of how specific organizational characteristics of structure (e.g., size) have influenced organizational functioning. Woodward (1965) focused on how the technological aspects of manufacturing organizations related to organizational structure. Thompson (1967) provided a different view of how technology influenced organizational structures. In contrast to the influence of technology, other conceptualizations focused on the environment of the organization such as the socio-technical program of research (e.g., Pasmore, 1988). Lawrence and Lorsch (1967) also examined environmental differences that might impact organizational structure effectiveness. In particular, Lawrence and Lorsch describe what are considered two of the primary aspects of the environment: differentiation of departments and integration of activities. Looking beyond technology and environment, other conceptualizations have considered organizational processes and how they can influence organizational structures and functioning (e.g., the information processing approach; Galbraith, 1974). In combination, this more empirical research led to a generic structural contingency theory of organizational functioning. To describe structural contingency theory briefly, there is not one best way to design and structure organizations. The most effective organizational structure depends strongly on a variety of variables such as environmental uncertainty, competition from other firms, and technology.

As this brief review highlights, there has been a rich history of conceptualization on the relationships between organizational structure and functioning prior to 1980, however relatively little research has addressed this topic in recent years. This is partially the result of a reframing of the question from the conceptual and theoretical focus to the empirical relationship between organizational structure and organizational functioning. It is difficult to find current conceptual research on organizational structure and functioning. More importantly, the question of the how organizational structure and organizational functioning influence each other remains unclear. An understanding of the relationship between organizational structure and function is still required in certain areas, including the BIA domain.

Under the DVA program, researchers again focused attention on the relationship between organizational structure and functioning and demonstrated that the relationship is vital to our gaining a full understanding of organizations. As we will describe here, the research question and tool development effort took the project in the direction of understanding three features of organizational operations and functioning: organizational characteristics, organizational configurations, and subsystems of organizations. Much of what was developed on this project and what is described here reflects theoretical viewpoints of Katz and Kahn (1978) and Mintzberg (1979). While these theories were developed over 30 years ago, we argue they are still very relevant and often appear in modern discussions of organizational configurations and system functioning.

Systems approaches continue to have an influence on the ways by which researchers try to understand organizations. As an example of this, the recent text *Psychology and Systems at Work* (Lawson, Anderson, & Rudiger, 2013) has its foundation in systems theory and systems thinking for the consideration of organizations, specifically based upon the classic book *The Social Psychology of Organizations* (Katz & Kahn, 1978). Part I of Lawson et al. is labeled as “Organizations as Systems.” Part II focuses on “Macrosystems” that “involve and influence all

levels and all individuals in an organization.” (p. 9). Part III is titled “Microsystems” which “are focused on doing things right and how management functions work” (p. 10). As another example, Wagner & Hollenbeck’s 2010 textbook on organizational behavior demonstrates that Katz and Kahn’s open system perspective on organizations is still a current and dominant perspective today. Similarly, a relatively recent organization theory textbook (Daft, 2010) uses various topics to introduce current perspectives in organizations. These include an open systems approach highlighting organizational subsystems (i.e., such as Katz & Kahn’s approach), and an organizational configuration viewpoint that specifically highlights the work of Mintzberg (1979). Mintzberg’s currency in modern Organizational Behavior texts is also illustrated in Wagner and Hollenbeck (2010). These authors devote a chapter to organizational structure that draws heavily on Mintzberg’s work as outlined in his book entitled “The Structuring of Organizations.” Although these are just a few illustrative examples from easily available textbooks, they do show that the foundation of the conceptual model upon the decades earlier works of Katz and Kahn (1978) and Mintzberg (1979, 1983, 1989) still represents current views of what are considered seminal ideas of organizational science which have stood the test of time.

In the sections that follow, we describe a study of organizational structure and functioning in support of the 711 HPW/RHXM and potential end users at the NASIC. We begin with a discussion of a Behavioral Influences Analysis Workshop attended by academics and researchers in the organizational sciences as well as United States Air Force (USAF) intelligence analysts (IA). This workshop focused the research team on analyst needs and helped identify potential theoretical frameworks that could help the organizational analysis process. From there, we introduce a conceptual tool that would help analysts to frame organizational analyses informed by the theoretical perspectives. We conclude by describing in detail the prototype analysis tool developed under this project. We call this the *Organizational Profiling Tool for Influences Analysis* (OPTIA).

2.0 THE BIA WORKSHOP

2.1 Participants

In June 2010, DVA project personnel held a BIA workshop that brought IAs and organizational behavior experts from the government and academia together to discuss the challenges faced by USAF IAs and to discuss an approach for developing tools and methodologies that could facilitate analysts in the development of organizational profiles. The workshop was led by Professor Verlin B. Hinsz (Hinsz Consulting) who served as Principal Investigator on the Ball Aerospace and Technologies Corp (Ball Aerospace) research team. The workshop involved the contributions of four Industrial/Organizational (I/O) psychologists from academia, one consultant with intelligence experience, and three analysts from the BIA Flight at NASIC. In addition, researchers from the Ball Aerospace team, 711 HPW/RHXM, and the Wright Brothers Institute's Tec[^]Edge facility participated in the workshop.

2.2 Workshop Objectives

The general goal of the workshop was to identify a typology or set of typologies of organizations that could serve as a foundation to help BIA analysts in their efforts to describe and understand organizations of interest to the intelligence community. A related goal involved identifying observable characteristics or “indicators” of organizational structures that might help identify their place in the typology and that might also provide insight into how organizations function.

Although seemingly simple, these goals posed several challenges. Numerous organizational typologies have been suggested over the years (Robbins, 1994), and these typologies are often based on distinctions that are not easily observable (e.g., how well parts of the organization are integrated; Lorsch, 1977). Moreover, the existing typologies are at different levels of specificity, making direct comparisons among typologies difficult (Perrow, 1967). For example, Woodward (1965) divided the manufacturing technologies of firms into small-batch production, mass production and continuous process production which does not interface with the typologies such as those that concern the kind of environmental uncertainty the organization faces (cf., Duncan, 1972). The existing typologies are also tailored to very different types of organization (e.g., manufacturing vs. service industries) and focus on different observable characteristics that may not be generalizable to the range of organizations being considered by the BIA analysts.

With these goals and challenges in mind, Professor Hinsz, Ball Aerospace, and scientists from 711 HPW/RHXM distributed an agenda for the 1½ day workshop enabling participants to generate ideas in advance. All participants were also sent a number of preparatory reading materials. These included a description of organizational structure and functioning from a typology perspective (Robbins, 1994), excerpts from a task analysis that described how the analysts currently performed their duties (Smith, Sieck, Weaver, & Sticha, 2009), a presentation of how the analysts viewed their jobs (Moon, 2010), and a document outlining a simple organizational typology currently in use by the analysts (Kuznar, 2009).

2.3 Workshop Process

The workshop was convened at the Wright Brothers Institute's Tec[^]Edge facility in Dayton, OH. Professor Hinsz initiated the technical discussion, presenting an overview of the workshop goals and purposes and described conceptualization of the general nature of the problem the BIA analysts face. He also demonstrated how the manifestations that are the focus of analysts' intelligence reports can be seen to relate to the characteristics, structure, processes and

tendencies of organizations, and how these together can contribute to potential avenues of influence for organizational decision making. Participants were then asked to consider the organization typologies that might be appropriate and the characteristics of organizations that might contribute to the development of a comprehensive typology, and to differentiate the processes of organizations from their structure.

Next, the BIA analysts outlined their objectives and general processes with regard to developing organizational behavior profiles. This involved an extensive dialogue with the I/O psychologists who tried to better understand features of the analysts' work. The analysts also offered their definition of an *avenue of influence*—"a channel through which a message is socio-culturally contextualized in order to enhance the target's cognitive and emotional vulnerabilities, susceptibilities, and acceptability."

After this extensive dialogue and the opening problem description, the I/O psychologists delineated a few of the typologies that already exist in the literature (e.g., matrix, divisional). This description of existing typologies veered into more elucidation of the characteristics that might help differentiate different types of organizations. As the discussion of organizational characteristics evolved, the I/O psychologists also suggested important organizational processes that were distinguished from organizational characteristics and types.

After listing and describing different organizational types and typologies, organizational characteristics and processes, it became apparent that the descriptive nature of typologies was necessary but not sufficient to meet analyst requirements. The analysts were seemingly not as interested in typologies per se as they were in the way that typology would explain how the organization functions. As the discussion continued, some psychologists starting using terms that reflected organizational *systems* to describe organizational functioning (e.g., reward system, command system). The notion of a systems view of organizational functioning resonated strongly with the analysts. Consequently, with the agreement of members of 711 HPW/RHXM, the focus of discussion shifted to a characterization of organizations based on the systems that describe how organizations function. The systems approach addressed both the function and descriptive aspects of organizations that the BIA analysts desired.

In considering whether there were any systems approaches to organizations that would meet the objectives of the workshop, the I/O psychologists agreed that the open-systems approach of Katz and Kahn (1978) would be of value. However, they also felt that it was at too high a level of abstraction to be of much use to the analysts without further specification. Consequently, the I/O psychologists helped to produce an inclusive list of systems of organizational functioning. The BIA analysts were asked to evaluate the inclusion of a given system into the list to make sure it represented the views of organizations for which they had responsibility.

In a sequential fashion, 13 different organizational systems were added to the list (see Table 1). In alphabetical order, these systems were labeled as:

- Administrative Control
- Command Authority
- External Relations
- Financial/Budgeting
- Indoctrination/Socialization

- Information Systems
- Intelligence
- Knowledge/Skills/Abilities
- Material Acquisition
- Planning & Development
- Production/Transformation
- Reward/Motivation
- Support/Maintenance

In generating this list, a workshop participant would offer a system and describe which aspects and functions of an organization it was meant to represent. This system was then openly discussed and debated among the participants. Workshop leaders facilitated the discussion and ensured that the group agreed that each system included was distinct from the other systems in critical ways and that inclusion of the nominated system would enhance the understanding of organizational functioning. When the final set of 13 systems was specified, workshop leaders verified with participants that the list was comprehensive, complete, and sufficient to explain most functioning of most organizations. In addition, participants reviewed the list for potential redundancies. For example, a Logistics System was included in the initial list but after considerable discussion, it was later deleted because the functions of this system were contained within the other thirteen systems. No further systems were added or deleted from this list after the thirteen were elicited and described.

After the participants had some time to contemplate the list of systems and discuss the characteristics and implications of the systems, the workshop focus shifted to a description of the meaning behind the systems and how each system would influence organizational functioning. By elaborating on the systems, a clearer understanding of the meaning of the systems was realized. Moreover, the analysts were given an opportunity to probe the I/O psychologists about how the systems would represent aspects of organizations that the analysts described. This discussion lasted several more hours and further comprehension of the systems was gained by the analysts based on discussions with the I/O psychologists.

Table 1: Listing of Systems of Organizational Functioning Developed During the Workshop

| SYSTEM LABEL | BRIEF DESCRIPTION OF THE SYSTEM |
|------------------------------|--|
| Administrative Control | The articulated operating procedures and regulating structures that guide the processes of the organization's routine activities |
| Command Authority | Leadership, management, administration, chain of command, that moves individuals in the organization toward objectives |
| External Relations | Engagement with entities outside of the organization; alliances, allies, suppliers, etc. that are sought to further achievements |
| Financial/Budgeting | Acquiring, monitoring and regulating the funds and related resources that allow the organization to pursue objectives |
| Indoctrination/Socialization | The ways that individuals become identified members of the organization and internalize its norms and ideology |
| Information Systems | The ways the organization directs, controls, stores, monitors, and distributes information and the technology used to do so |
| Intelligence | The means and mechanisms the organization uses to gain information about entities and action outside the organization |
| Knowledge/Skills/Abilities | The ways the organization recruits or trains the specific talents that the organization needs from among its members |
| Material Acquisition | The procedures the organization uses to acquire the tangible resources required to produce the goods and services it delivers |
| Planning & Development | The strategic functions the organization pursues to determine its current actions as well as to define and pursue future goals |
| Production/Transformation | The processes, technologies, and mechanisms by which the organization produces goods and services to acquire resources |
| Reward/Motivation | The tangible and intangible means by which the organization instigates, continues, regulates, and terminates member efforts |
| Support/Maintenance | The ways the organization sustains, rejuvenates, reinforces, corrects, and cares for its practices, personnel, and products |

In addition, discussing and generating a list of organizational systems, the workshop participants also generated a list of *organizational characteristics* that might be relevant for understanding organization functioning. This list of characteristics (Table 2) highlighted features of organizations that are not inherent to any given subsystem yet are believed to influence organizational functioning. Again, the terminology did not always follow the jargon of organizational science, but instead reflected general terms that were sensible to the analysts participating in the workshop. These characteristics were considered by the workshop attendees

to both influence and be influenced by organizational structure and functioning, but no attempt was made to further explore this relationship during the workshop.

Table 2: Listing of Organizational Characteristics Generated During the Workshop

| Organizational Characteristics | | |
|--------------------------------|---------------------------|-------------------------------|
| Size | Power and Influence | Dynamism/Stability/Turbulence |
| Organizational Culture | Dispersement | Capabilities & Competencies |
| Organizational History | Homogeneity/Heterogeneity | Organizational Identity |
| Coherence/Fissures | Status (current, future) | Inter-Organizational Network |

As the workshop was concluding, members of 711 HPW/RHXM and the BIA analysts were asked about the potential value and utility of the systems approach to organizational functioning that had been produced during the workshop. One analyst indicated that prior to the workshop, the vague organizational typology they were using provided them with a “15% solution” with regard to a holistic approach to examining organizations. However, the systems approach to organizations provided an “85% solution.” This was backed up by another analyst who shared that the workshop identified important aspects of organizational functioning that the analysts had overlooked. To quote one analyst:

“... the conference—at least from our perspective—was a great success. Firstly, all the participants were extremely qualified in their areas of expertise. Just as importantly, all were willing to work within the parameters/framework best suited to help us move forward ...this was by far the most productive [workshop] for BIA, as the participants honestly and openly engaged in cross-disciplinary discussions ... a real environment for synthesis.”

2.4 Workshop Outcome

The primary outcome of the workshop was an understanding of analysts need for an approach to understanding organizational functioning as opposed to a typology of organizations. To this end, the key product of the workshop was the inclusive list of organizational systems (see Table 1), representing various organizational features that are relevant to the NASIC BIA process. The view of organizations was not limited to manufacturing or service organizations, but was intentionally extended to represent all manner of organization (e.g., large, small, multinational, governmental, non-governmental, private, and public). It was intended to be comprehensive, representing all aspects of organizational functioning that could be used to characterize and understand an organization. In this respect, it can serve as the foundation upon which a methodological model and decision support tool for organizational analysis can be constructed.

2.4.1. Consideration of the Systems View

The first step in digesting information from the workshop involved examining the extent to which we could establish links between the systems generated as part of the workshop and the existing literature on systems in organizations. In particular, the authors reviewed Katz and Kahn (1978) to determine how well the systems generated in the workshop mapped on to the leading description of the open-systems approach. In the process, it became evident to both authors that there was substantial overlap between the systems generated in the workshop and the systems that were discussed throughout Katz and Kahn’s book. Although Katz and Kahn focused on five subsystems of organizations (i.e., Production/Technical, Maintenance, Adaptive,

Supportive & Managerial), in their book they described of a number of other subsystems in organizations that contribute to organizational functioning but do not receive the same attention as the five primary subsystems in their framework.

DVA project researchers independently attempted to relate the systems produced in the workshop to the five subsystems that are the focus of the Katz and Kahn (1978) open-systems framework. There was much agreement between the researchers' representations, and consensus was achieved in the mapping presented in Table 3. This mapping gave us confidence that we could pursue a systems-based representation using the 13 systems identified at the workshop without diverging significantly from established systems approaches in the literature.

Table 3: Framework for Representing the Mapping of the Organizational Systems Generated at the Workshop to the Organizational Subsystems of Katz and Kahn

| Katz and Kahn's Organizational Subsystems | Organizational Systems Generated at the BIA Workshop |
|---|--|
| Production/Technical | <ul style="list-style-type: none"> • Production/Transformation |
| Maintenance | <ul style="list-style-type: none"> • Material Acquisition • External Relations |
| Adaptive | <ul style="list-style-type: none"> • Intelligence • Planning & Development |
| Supportive | <ul style="list-style-type: none"> • Indoctrination/Socialization • Knowledge and Skills • Reward/Motivation • Support/Maintenance |
| Managerial | <ul style="list-style-type: none"> • Administrative Control • Command Authority • Financial/Budgeting • Information Systems |

Upon completion of the workshop and consideration of its outcome, the research project team, including the Government sponsors at 711 HPW/RHXM and end users at NASIC, agreed on an approach for moving forward. This approach centered on incorporating a systems-oriented analysis into the design of BIA analyst tools as a means of guiding analysts' attention to a comprehensive list of organizational components that combine to influence organizational functioning.

To the extent that analysts can understand functioning (e.g., strengths and weaknesses) across organizational subsystems, they can begin to make inferences regarding potential avenues of behavioral influence in the organization. As an example, we offer the situation faced by the hypothetical nation "Nomanistan" being examined by behavioral influences analysts.

The upper echelons of the Nomanistan AF want enlistees who are committed to the ideals of the Nomanistan military and to upholding the honor and traditions of the Nomanistan AF. Because the members of the AF expect enlistees to join the AF for these ideals, the military indoctrination

and socialization procedures are intended to reinforce and cultivate such beliefs and attitudes about the Nomanistan AF. Now consider that Nomanistan has been suffering tremendous economic deprivation since it achieved independence from colonial rule several decades ago. Because of tribal conflict between different ethnic groups, many members of society do not feel safe and are concerned about their families' and their own security. This lack of security and economic deprivation has resulted in the Nomanistan military being an attractive career option for many young men. Although, military pay to new enlistees is not particularly high (a characteristic of the organization's reward/motivation subsystem), it is considered as a reliable form of income. This means that individuals might be enlisting for economic and personal security reasons, not for the noble ideals espoused by the leadership of Nomanistan's AF. Consequently, the indoctrination process intended to strengthen the cohesiveness, loyalty and *esprit de corps* of the Nomanistan AF may be falling short because it focuses on lofty ideals and long-standing traditions - aspects of the AF that enlistees do not view as corresponding to the reasons why they joined and remain members in the Nomanistan AF. If the Nomanistan AF were to become perceived as unsafe (e.g., if members were physically targeted for attack), or if the economic advantages of membership disappear (e.g., salary payments were disrupted for months or opportunities for gainful employment outside the military were to improve), enlistees might easily be enticed to leave, desert or even betray the AF for financial and security reasons. Therefore, the specific way in which the Nomanistan AF's indoctrination/socialization and reward/motivation systems function can be manifested as strengths or as weaknesses which, in turn, create potential avenues of influence.

2.4.2. Expanding to Consider Structure

Though the workshop shifted the primary project focus from organization type to organization functioning, the original goal to identify a suitable typology for classifying a wide range of organizations was seen by the researchers to still have merit. Consequently, researchers continued the pursuit of a meaningful typology for BIA analysts. It seemed clear that analysts should have a mechanism for describing the structure of an organization at a level higher than the functioning of 13 individual subsystems because the functioning of these subsystems would likely vary based on the organizational philosophy of the organization and how it is structured.

Diving deeper into the organizational literature, project researchers identified a candidate typology concept in the organizational configurations approach of Mintzberg (1979, 1983, 1989). Mintzberg suggests that organizations can be typed according to the size and organizational influence of several structural components. These components include 1) an *operating core* that performs the basic work of the organization, 2) a *strategic apex* that leads the organization, 3) a *middle line* that translates direction and performance data between the operating core and the strategic apex, 4) a *technostructure* that serves to standardize work in the organization, and 5) a *support staff* that performs work outside the basic work of the organization (Mintzberg 1983). These are all influenced by a sixth key part of the organization, *ideology/culture*, which Mintzberg (1989) described in more detail later.

Mintzberg suggests that each of these organizational components asserts influence within organizations in different ways and can be pictorially represented in a fashion that emphasizes the degree of influence exerted by each component (see **Figure 1** as depicted in Mintzberg, H (1979). The Structuring of Organizations, Englewood Cliffs, NJ. Prentice-Hall.) Each of the five main structural components is represented as an individual region in a combined graphic. The relative size and influence of a component in the organization can be depicted by

manipulating the size and shape of the corresponding component in the figure. Mintzberg asserts that as an organization grows, evolves and transforms; its structure changes accordingly. Thus, a series of such graphics for a single organization may change dramatically over time.

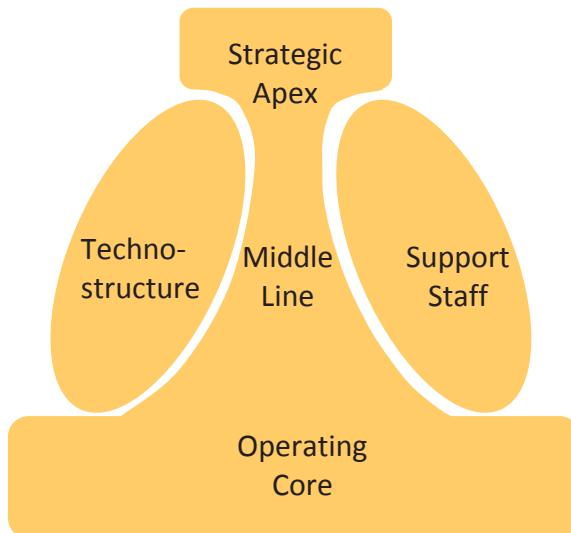


Figure 1: The Five Basic Components of an Organization

Project researchers concluded that Mintzberg's approach to characterizing, configuring, and visualizing an organization's structure would aid the BIA analysts' efforts to "type" organizations at a high level. It would also help them consider and identify how an organization is evolving over time. Subsequent to the workshop, the Mintzberg organizational configurations approach was briefed to the BIA analysts who had attended the workshop. They stated that they saw considerable merit in this approach to characterizing organizations.

Mintzberg (1979) also introduces a set of "contingency factors" that can influence the structure (actual or ideal) of an organization. These contingency factors map well to the organizational "characteristics" identified by the I/O psychologists in the BIA workshop (see Table 2).

Mintzberg offers a set of hypotheses about the structure of the organization that accompanies each contingency. We see these hypotheses as being a potential mechanism to aid analysts in characterizing organizations and also as a means to identify potential system vulnerabilities when observed organizational structures are ill-suited to the contingencies faced by the organization.

3.0 A CONCEPTUAL MODEL FOR AN ORGANIZATIONAL ANALYSIS TOOL

As a result of the BIA workshop and a subsequent review of various publications by Katz & Kahn and Mintzberg, the research team began developing a conceptual model of what a theoretically-based organizational analysis tool might look like. Consistent with the findings of the workshop, researchers agreed that the tool should be based upon three foci: (1) the organizational subsystems that describe how organizations operate and function, (2) the organizational characteristics and factors that help describe the nature and features of the organization, and (3) the organizational configuration that highlights the organization's structure. This tool could aid the analyst in characterizing and describing the structure and functioning of an organization, and also help him/her to drawing inferences about potential avenues of influence within that organization.

A key assumption made by the research team and later validated by analysts at the NASIC was that the tool should help the analyst examine organizations in a comprehensive and consistent manner. This would be best achieved by providing the analysts a set of questions that address a full range of organizational form and function areas that are considered critical by the researchers who study and design organizations. With these questions, coupled with descriptions of the dimensions on which the form and functional areas vary, analysts could be sure that their analysis examines organizations from a wide array of structural and functioning perspectives, enhancing the probability that they might uncover viable avenues of influence.

3.1 A Multi-Layered Approach

Project researchers began to evolve a multi-layered approach to the conceptual model for an organizational analysis tool. This approach is depicted in **Figure 2**. As an abstraction of the conceptual model, this multi-layered approach is reflected in the way that organizational topics (layers) could be broken out within an analysis tool. At the top layer, the conceptualization focuses on the organization. This layer involves a description of the key factors of the organization such as its name, location, elements of its history, etc. In a sense, these descriptive factors provide the analysts with some general information about the organization so that some context about it is known without yet delving into its characteristics, operations, configurations, or functioning. The second layer involves the three foci of characteristics, configuration components, and subsystems. Subsequent layers are then embedded within each of these three foci. In particular, the third layer of this conceptualization involves the attributes associated with each of these three foci. Attributes reflect such notions as the organizational characteristic of technological sophistication, the command authority subsystem's issue of the perceived legitimacy of the authority, or the influence of the support staff component in the organization's decision making. It is these attributes that lead directly to the questions that would be posed to the analyst. By reflecting on these attributes, it is expected that analysts will be better able to understand the characterization, structure, and functioning of the organization of interest.



Figure 2: A Representation of the Multi-Layered Approach to the Conceptual Model

Associated with each of the attributes is the evidence layer (fourth layer). Organizational profiles and related inferences are expected to be grounded in relevant evidence and the analysts' interpretation of that evidence. It is this interpretation of the evidence and the larger organizational context that is used to formulate the rationale for analytical assessments. The rationale is a fifth layer within this multi-layered approach. A useful analysis tool should provide a means to enter the rationale for an analyst's assessment of each organizational attribute and this rationale should be fully considered and formed prior to developing an assessment rating. NASIC analysts working with the research team were in uniform agreement regarding the importance of articulating the rationale for assertions made in the development of the organizational behavior profiles. Associated with all of these layers is an additional component that reflects the analyst's confidence in the collective response, evidence and rationale. A confidence rating should be the last judgment entered by the analyst when assessing each attribute. Analysts indicated that this confidence rating is critical for conveying to their supervisors and customers (consumers of their intelligence products) the strength of evidence behind each item in the assessment.

3.2 A Conceptual Organizational Analysis Tool

The multilayered framework described above was presented to NASIC analysts who strongly embraced the idea and helped shape it into a framework for the conceptual analysis tool to be developed. They agreed that an effective tool would pose to the analyst a series of questions

pertaining to aspects of organizational structure, the function of subsystems in the organization, and observable characteristics of the organization's operating environment. Most importantly, the questions should serve as a catalyst for the analyst to reason through available evidence to discern a rationale for responding to the question and also be support an associated confidence rating. Further, analysts confirmed that the tool should provide a means for the analysts to link evidence relevant to the question to a database as a storehouse for evidence. This is the evidence the analyst is expected to rely upon to support his or her response to the questions (e.g., an intelligence report, a press clipping, literature published by the organization) and the inferences the analyst draws while constructing the organizational profile. Finally, the analysts were very receptive to the notion of a tool that would provide them access to summaries and identify reference materials that discuss theoretical approaches and implications associated with the question sets. Noting that most analysts did not have a formal education in the organization sciences, they saw great value in being able to quickly and easily access information that summarizes key findings in the organizational science literature.

Across a number of discussions, analysts and researchers agreed that the multilayered approach could be implemented as a prototype in a simple, straightforward manner using a commercial-off-the-shelf (COTS) spreadsheet product such as Microsoft Excel. Implementing the framework in a spreadsheet offered several key advantages over building the analysis tool in a custom software package. The team felt it would reduce development costs, allow easier integration of the tool into classified environments, be user-friendly for analysts already familiar with Excel, and would be easier for end users (analysts) to modify if/when they wanted to evolve the question sets over time.

The research team worked with analysts to identify mechanisms for implementing in a spreadsheet each of the layers of the conceptual model. This began with a consideration of the organizational description, the organizational characteristics, the organizational configuration, and the organizational subsystems. Each of these represents a different prism through which an organization can be viewed, and each would have a unique set of questions for the analyst to address. As such, researchers felt that each of these focus areas could be represented on a different worksheet of a spreadsheet workbook.

Within a given focus area (worksheet in the workbook), the envisioned tool should pose to analysts relevant questions that address various attributes of that focus area. For example, the *characteristics* worksheet might contain questions about attributes such as the organization's operating environment, its technology, its climate/culture, and its status. Each attribute has some associated dimension (e.g., the organization's operating environment attribute might vary upon a stability dimension, a complexity dimension, a diversity dimension, and a hostility dimension). Therefore, for each question, the tool should provide a set of response scale options tailored to the particular dimension. Responses, entered by the analyst via a pull down menu, would represent the analyst's assessment of the organization on each unique organizational attribute.

Going beyond the attribute questions and potential response sets, researchers felt that both the analyst's rationale for the assessment and confidence in the assessment could be entered and stored within a spreadsheet. These aspects could be supported by simple text entry fields for rationales and selectable radio buttons for confidence ratings. Moreover, to provide evidence in support the analyst's rationale, a spreadsheet-based tool could support creation of hyperlinks in the assessment tool (the spreadsheet) to documents that provide evidence (e.g., existing intelligence reports) for the analyst's assessment.

Finally, because the questions the tool poses to the analyst reflect key attributes of organizational structure and function as identified over decades of organizational research, researchers and analysts felt that it would be extremely useful to provide links from the spreadsheet to written summaries of the research findings. Each summary could aid the analyst in understanding the question itself and *why* it is important for understanding the organization's operations and functions. In addition, a relevant research summary could highlight reference material that the analyst could seek out if he/she wants to read in more depth about a given organizational attribute and how it relates to functioning.

The research team created and provided to analysts a sample illustration of how a prototype organizational analysis tool might instantiate the features of the multi-layered approach. This example is presented in **Figure 3**, which shows a representative question addressing organizational attributes. As presented, the question posed (from the Knowledge, Skills, and Abilities subsystem) is in the far left side of the figure. To the immediate right of the question is the textbox in which the analyst enters a rationale. This text box could expand to accommodate a large amount of text if necessary. To the right of the rationale text box is a drop down menu for selecting a response to the question. The response options would become visible if the drop-down menu is activated (the down arrow). In this example, the response options included seven responses ranging from *Extremely Ineffective* to *Extremely Effective*, with the sixth option illustrated. To the right of the response options and at the right side of Figure 3 is the confidence rating. Five confidence rating options are provided, which was the number that BIA principal analysts felt best represented the confidence categories that analyst would comfortably and reasonably use. Note that underneath the question, a hyperlink to the *Related Research Literature* is provided. If the analyst were to click on this link, it could take the analyst to a document that summarizes key discussions about this attribute in the literature. Additionally, underneath the rationale textbox, an unpopulated hyperlink to the evidence is provided, allowing the analyst to create a link to his or her evidence. Thus, both evidence and rationale are conceptually and clearly linked from the tool.

| Question | Rationale | Response | Confidence Rating |
|---|--|----------------------------|--|
| How effective is the organization at attracting an adequate pool of appropriately talented individuals to fill all the positions in the organization? | <p>There is substantial evidence to indicate that the organization has been quite effective in attracting appropriately talented individuals. As Exhibit IV in the accompanying hyperlink indicates, when the organization needed an individual with the ability to launder large amounts of funds, the organization was able to find the person to do so.</p> <p>Related Research Literature</p> <p>Create/View hyperlink to evidence</p> | <p>6 - Quite Effective</p> | <input type="radio"/> Not at all confident <input type="radio"/> Slightly confident <input type="radio"/> Moderately confident <input checked="" type="radio"/> Highly confident <input type="radio"/> Extremely confident |

Figure 3: A Representative Question Assessing Organizational Subsystem Attributes

In late-2010, the DVA research team met with NASIC analysts to convey the idea of the multi-layered approach and the concept for implementing the approach within a Microsoft Excel spreadsheet. The concept was embraced by lead analysts in the organization who felt that the content and layout of the conceptual tool would be ideal for supporting the processes and products they desire from analysts in NASIC's BIA flight. The research team was encouraged to move forward on the development path without any significant changes being requested. At this time, the team began referring to the prototype organizational analysis tool as the OPTIA.

4.0 DEVELOPING THE OPTIA TOOL

Throughout 2011 team researchers reviewed in depth the primary organizational research that underlies the configurations and systems approaches behind OPTIA. These included works by Mintzberg and Katz & Kahn, respectively. In addition, researchers identified a number of other reference materials that provide information on one or more of the thirteen organizational subsystems identified in the BIA workshop. Reviewing these materials, researchers began to identify key organizational attributes associated with organizational characteristics, configurations, and subsystems. These reflected dimensions of organizational structure and functioning that appeared repeatedly in the literature. For each attribute identified, the research team developed a question that asks the analyst to assess the organization on a dimension consistent with those often discussed in the literature. For example, considering the Reward & Motivation subsystem, researchers found that members' perceived fairness of the system is an attribute often discussed in the literature as it pertains to overall member satisfaction with the organization. Thus researchers developed a question to address this attribute: "How fairly do organizational members believe that the material rewards they receive from the organization are distributed?" Similarly, they developed a response scale that analyst could use to assess the organization on this attribute, ranging from "extremely unfair" to "extremely fair".

In all, the research team developed 131 unique questions they felt most relevant to covering the Organizational Description, Characteristics, Configurations, and Subsystems facets of organizational analysis. In addition, they developed five additional questions covering influence, effectiveness and vulnerability associated with each of each of the 13 subsystems, bringing the total number of questions in OPTIA to 196. A list of these questions and their associated assessment dimensions is provided in **APPENDIX 1 - OPTIA Question Sets**.

As some team members focused on developing the OPTIA question set, others began designing and implementing the multi-layered approach in Microsoft Excel. In the following section, we introduce aspects of the tool design as implemented in OPTIA v1.0 that was delivered to the 711 HPW/RHXM.

4.1 Overview of the OPTIA Design and Content

The OPTIA workbook contains a number of worksheets accessed by tabs at the bottom of the screen. Many of these worksheets reflect the specific layers of the framework as described above. These worksheets encourage analysts to answer questions about the organization, provide assessments over multiple dimensions of structure and functioning, and to provide rationale and confidence ratings for their assessments. Other worksheets exist to help to orient the analyst, provide information on the use of the tool, and to summarize results.

4.1.1. Introductory Material

The first three worksheets in OPTIA provide introductory material for using the tool and establishing a new analysis for an organizational behavior profile. OPTIA's first worksheet, Distribution Statement, provides basic information about OPTIA distribution (see **Figure 4**). It includes the sponsoring unit in AFRL, the contract for which it was developed, points of contact for obtaining a copy of the tool, and a statement limiting distribution of the tool in accordance with USAF direction.

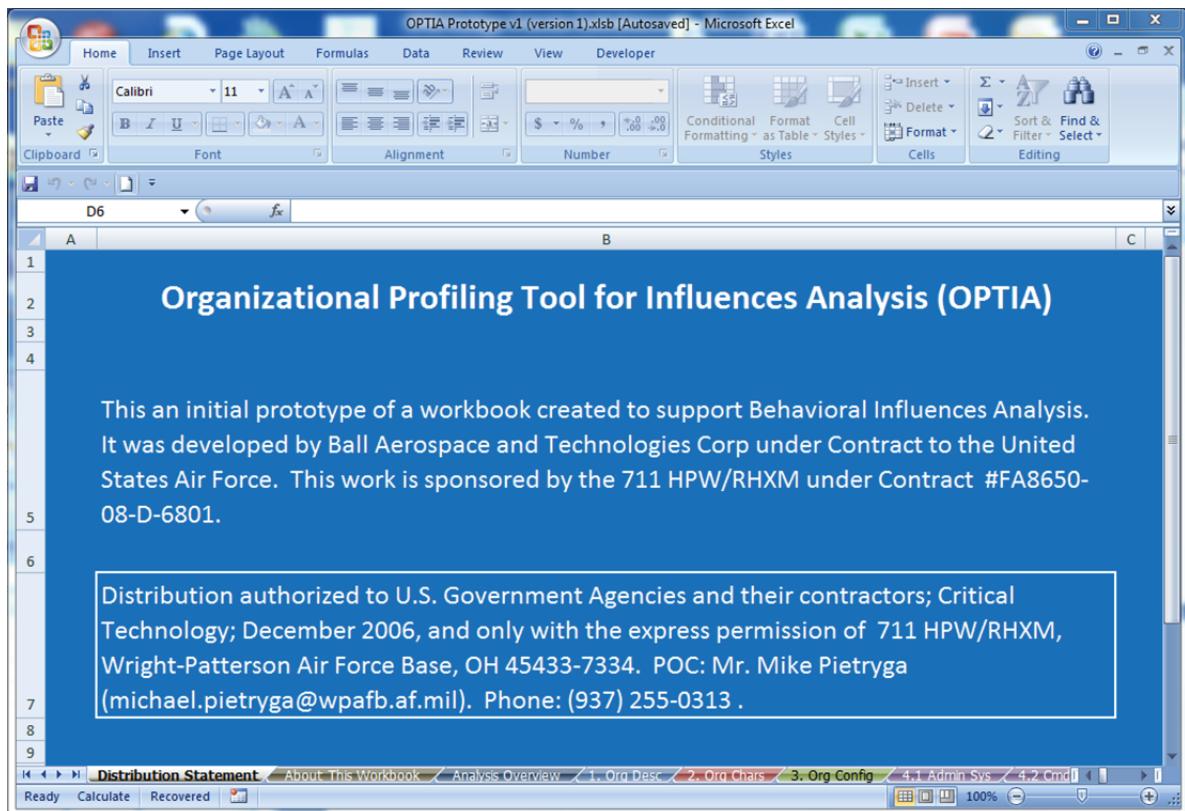


Figure 4: OPTIA Distribution Statement Worksheet

The second worksheet, *About this Workbook*, (Figure 5) provides general background information about the tool and instructions on how to use it. The page conveys OPTIA's developmental history as well as its purpose and intended use. It also includes a *Notes to the User* section that describes the order in which worksheets are to be completed, how macros are embedded and used in the tool, and how the hyperlinks to evidence and additional research literature can be created and/or used.

What this Workbook Does

The OPTIA tool is designed to aid behavioral influences analysts as they prepare organizational behavior profiles. The focus of the tool is on organizations; it does not focus on the behavior of specific individuals or groups. It is intended to be useful for the wide variety of organizations that behavioral influences analysts investigate (i.e., not just military organizations).

The primary component of OPTIA is a collection of question sets that help the analyst come to understand how an organization can be characterized as well as how the organization operates and functions. These questions sets are derived from various theories and approaches identified in the organizational sciences literature, and they are intended to help the analyst view the organization from numerous perspectives.

This prototype of OPTIA is tailored to the specific needs of analysts at NASIC/SMRB. NASIC analysts requested a tool that would aid them in developing comprehensive, evidence based organizational behavior profiles developed with insights from the organizational sciences literature. OPTIA directly addresses this need, providing a methodology that leads analysts to think critically about the characteristics and functioning of organizations – factors which ultimately influence how an organization acts – and providing a means for analysts to develop a comprehensive understanding of an organization based upon the available evidence by linking the relevant evidence to particular questions about the organization. Grounded in the existing organizational science literature, OPTIA guides analysts in a common, objective approach to organizations that can be shared among analyst teams. Throughout the tool, links to relevant organizational science for the topics are provided to inform the analyst about key theoretical and conceptual notions that can help the analyst articulate the organizational behavior profile. With these features, OPTIA provides analysts with a critical resource for producing work products that involve the behavior of organizations.

Throughout OPTIA, a primary purpose is to facilitate analysts' development of evidence-based rationales for their specific and general inferences about an organization. In addition, OPTIA aids analysts by providing structure to their investigation of organizations, identifies gaps in their knowledge of an organization, helps analysts develop a shared lexicon about their descriptions of organizations, provides a repository of organizational science literature that informs analysts about organizations, depicts patterns of responses to the questions that summarize the analysts' knowledge of an organization's functioning, and summarizes the organizational structure that contributes to the patterns of actions the organization pursues.

Notes to the User

In general, the tabs in this workbook are meant to be addressed from left to right, beginning with the Analysis Overview tab and then continuing with the numbered tabs. Each tab presents a set of questions intended to help the analysts consider different facets of the organization. The Subsystems (addressed in tabs 4.1 - 4.13), however, can be addressed in any order. They do not need to be addressed sequentially. Due to the volume and depth of questions, it will be a challenge to answer every question with any degree of confidence. So a fully completed workbook should be considered more of an ideal than a practical expectation. The important point is that the analyst begin thinking about the organization from the various perspectives. Moreover, this workbook -- by design-- does not provide analysis. It does not roll the analysts responses into an algorithm that reveals key inferences regarding clear avenues of influences. Rather, it is meant to stimulate an analyst's thinking, to help him/her consider all aspects of organizational configurations and functions so that he/she is better informed to develop such.

Figure 5: About this Workbook Worksheet

The third worksheet, *Analysis Overview* (**Figure 6**), is the first worksheet in which the analyst is asked to input information. This information establishes a historical overview of the organizational behavior profile. The analyst names the organizational behavior profile, enters an analyst and supervising analyst name associated with the analysis, enters dates of initial creation and last input. It also allows the analyst to specify the time period to which the analysis applies. Finally, it supports entry of a behavioral profile status. Here the analyst can specify whether the analysis is in process, pending review, completed, etc.

The screenshot shows the Microsoft Excel interface with the title bar "OPTIA Prototype v1 (version 1).xlsm [Autosaved] - Microsoft Excel". The ribbon tabs are Home, Insert, Page Layout, Formulas, Data, Review, View, and Developer. The View tab is selected. The ribbon icons include Workbook Views (Normal, Page Layout, Full Screen), Show/Hide, Zoom (100%, Zoom to Selection), Window (New Window, Arrange All, Freeze Panes, Workspace Windows, Save, Switch, Macros).

The worksheet is titled "Analysis Overview" in cell B2. The content includes:

- Analysis Overview**: A section intended to record data about the history and status of the analysis.
- Please complete the fields below.**
- Title of Organizational Behavior Profile**: Response field (cell C5)
- Analyst Name(s)**: Response field (cell C7)
- Principal Intelligence Analyst**: Response field (cell C9)
- Analysis Start Date (mm/dd/yy)**: Response field (cell C11)
- Date of Last Change (mm/dd/yy)**: Response field (cell C13)
- Period of Time that Analysis Covers (mm/dd/yy)**: Response field (cell C15)
- From**: Response field (cell C17)
- To**: Response field (cell C19)
- Profile Status (e.g., in progress, complete, pending review)**: Response field (cell C21)

The status bar at the bottom shows "Distribution Statement About This Workbook Analysis Overview 1. Org Desc 2. Org Chars 3. Org Config 4. ... 100%".

Figure 6: Analysis Overview Worksheet

Most of the remaining worksheets in OPTIA relate to the three foci of the underlying framework: characterizing the organization, representing the organization's configuration, and describing the functioning of the organization in terms of the subsystems. These worksheets are introduced below.

4.1.2. Description and Characteristics

Two OPTIA worksheets focus upon questions that help the analyst characterize the organization. The Section 1.0 Organizational Description worksheet contains a number of open-ended questions that allow the analyst to detail the factors that describe the general aspects of the organization (see **Figure 7** for a truncated representation of this worksheet). For example, one question asks the analyst to describe the scope or boundaries of the organization so that it is clear who is and who is not considered a member of the organization for the purpose of the profile.

Additional questions address questions about the age, size, location(s), clients/customers, and products or services the organization produces.

This section of OPTIA introduces the capability for an analyst to create hyperlinks to evidence supporting his/her responses to these open-ended questions about the descriptive factors of the organization. See the *Create/View hyperlink to evidence* link at the right side of the page. Note also that this section introduces a *Clear Responses* button. If macros are enabled, selecting this *Clear Responses* button will allow the analyst to clear out all data on this worksheet without having to manually delete content from each cell.

Section 1. Organizational Description

This section provides open-ended questions that are intended to help establish a high-level overview of the organization of interest. It identifies the specific organization and addresses general aspects of its purpose and environment.

Please enter a response for each question. If you have evidence to support your response for a given question, create a hyperlink to the applicable document by right-clicking the cell labeled "Create/View hyperlink to evidence", selecting "Hyperlink...", from the menu, and identifying the relevant document or directory of documents.

| | | Clear Responses | | |
|---|-----------------------|--|----------------------|--|
| | | Response | | |
| 1 | Name | 1. What is the name of the organization? Include formal name and any common nicknames, abbreviations, etc. | <input type="text"/> | <i>Create/View hyperlink to evidence</i> |
| 2 | Scope | 2. Describe the scope or boundaries of the organization (i.e., specifically—which members/groups are included in the analysis and which are not) | <input type="text"/> | <i>Create/View hyperlink to evidence</i> |
| 3 | Age | 3. In approximately what year was the organization founded? | <input type="text"/> | <i>Create/View hyperlink to evidence</i> |
| 4 | Size (Overall) | 4. Approximately how many members make up the organization of interest? | <input type="text"/> | <i>Create/View hyperlink to evidence</i> |
| 5 | Size - Operating Core | 5. Approximately how many members of the organization perform the basic work related to an organization's product or service? | <input type="text"/> | <i>Create/View hyperlink to evidence</i> |
| 6 | Size - Middle Line | 6. Approximately how many members of the organization are managers who transfer (information) between higher and lower levels of the organizational hierarchy? | <input type="text"/> | <i>Create/View hyperlink to evidence</i> |
| 7 | Size - Strategic Apex | 7. Approximately how many members of the organization are top-level executives responsible for running the organization? | <input type="text"/> | <i>Create/View hyperlink to evidence</i> |

Figure 7: Organizational Description Worksheet (Truncated)

The second worksheet related to characterizing the organization is Section 2.0 (a truncated version is depicted in **Figure 8**). The questions in this worksheet relate more closely to the

organizational science literature and the characteristics that are often used to differentiate organizations. A number of the questions regarding the characteristics reflect the organization's operating environment (e.g., stability, hostility). In addition, the organizational science literature emphasizes the technology used by the organization (e.g., sophistication of technology), the organization's internal climate (e.g., degree of conflict within the organization), and its status among peer organizations. OPTIA includes a few questions about each of these defining characteristics of the organization under consideration.

This worksheet introduces several new layers of the conceptual framework. First, it includes a "Rationale" box in which the analyst can record his/her rationale for selecting a given response to the question. This box is highly expandable and can accommodate up to 1024 displayable characters. The *Organizational Characteristics* worksheet also introduces the "Response" pull down menu. This menu, accessed by clicking the downward arrow next to response box, consists of response options tailored to the dimension addressed in the question. The ability for the analyst to enter a confidence rating is also introduced on this worksheet. In assigning a confidence rating to the assessment value he/she has chosen, the analyst can select from five confidence values ranging from *Not at All Confident* to *Extremely Confident*.

The screenshot shows a Microsoft Excel spreadsheet titled "OPTIA Prototype v1 (version 1).xlsm [Autosaved]". The ribbon menu is visible at the top, showing tabs like Home, Insert, Page Layout, Formulas, Data, Review, View, and Developer. The View tab is selected, displaying various window and zooming options. The main content area contains the following sections:

- Section 2. Organizational Characteristics:** A yellow-highlighted box containing instructions: "This section provides questions to help assess general characteristics of the organization (e.g., environment, technology)." and "After reading the question, provide a rationale for your response, then select a response from the pull down menu and rate your confidence in the response. If you have evidence to support your analysis for a given question, create a hyperlink to the applicable document by right-clicking the cell labeled 'Create/View hyperlink to evidence', selecting 'Hyperlink...', from the menu, and identifying the relevant document or directory of documents. To see research literature relevant to the organizational characteristic, click the 'Relevant Research Literature' hyperlink."
- Organizational Characteristics:** A yellow-highlighted box containing a definition: "Organizational characteristics are those aspects of an organization that might either influence or result from the organization's structure and functioning. Areas of interest include the operating environment, technology, climate / culture, and status." It also includes a link to "Relevant Research Literature".
- Questionnaire Rows:** Two rows of data are shown, each with a "Question" column, a "Rationale" column (containing a dropdown menu labeled "Select response..."), a "Response" column (containing a dropdown menu labeled "Select response..."), and a "Confidence Rating" column with five radio button options: "Not at all confident", "Slightly confident", "Moderately confident", "Highly confident", and "Extremely confident".
- Links:** Below the first row, there are links to "Relevant Research Literature" and "Create/View hyperlink to evidence".

Figure 8: Organizational Characteristics Worksheet (Truncated)

Finally, this worksheet offers the analyst the first opportunity to examine a Relevant Research Literature summary. This is accomplished by clicking a hyperlink associated with the general topic (in this case, Organizational Characteristics) or with a specific question topic (e.g., Operating Environment Stability). **Figure 9** shows an example of a Related Research Literature Summary that will appear when the analyst selects the link next to question 1, which deals with operating environment stability. All summaries were written to follow a simple outline. They include a definition of the attribute to which the question pertains (e.g., what is meant by the term “operating environment stability”), a description of why that attribute is important to organizations, a discussion of why that would be of particular interest to an analyst, and a set of recommended reference material the analyst can examine for a more detailed discussion of that attribute. All of the Relevant Research Literature summaries developed for OPTIA are included in Appendix 2.

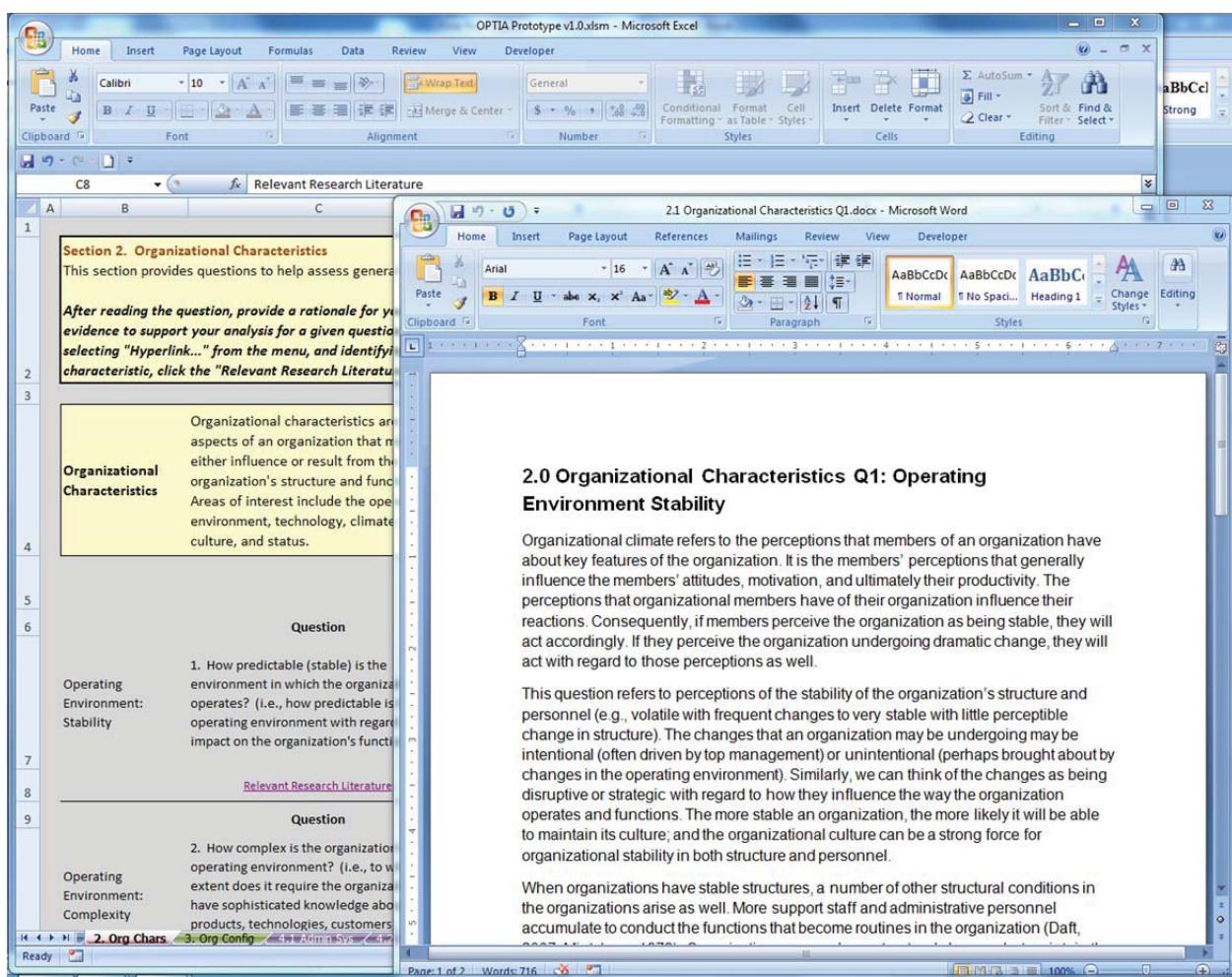


Figure 9: A Truncated Example of a Related Research Summary Available via Hyperlink

The rationale text box, response dropdown menus, confidence rating selection buttons, and Related Research Literature links introduced here are features of nearly all of the remaining worksheets in OPTIA.

4.1.3. Organizational Configuration

The next worksheet, Section 3.0 (see **Figure 10**), provides a basis for understanding the structure of the organization. In particular, the questions in this worksheet are based on the conceptualization provided by Mintzberg outlined earlier. Several questions in this worksheet reflect issues of decentralization within the organization. Decentralization is a fundamental aspect of organizational structure in that it describes where the power to affect decisions resides within the organization (i.e., the extent to which it is distributed among top management, the technical specialists, middle management, the support staff, or the individuals that do the work involved in producing the goods and/or services). This set of questions also allows the analyst to note where influence in the organization resides, because decentralization of authority can be focused in different conceptual areas in the organization (in what Mintzberg calls the different components of the organizational configuration). Other questions in this worksheet ask the analyst to indicate the degree to which the organization under consideration is similar to one of the seven types of “pure” organizational configurations described by Mintzberg (1979, 1983, 1989) such as simple bureaucracy or divisionalized form (although the analysts do not have to be knowledgeable about terms used by Mintzberg). Based on responses to these configuration questions, one can begin to “type” the structure of the organization. Mintzberg suggests that most organizations do not resemble one of the “pure” organizational configurations. Rather, real-world organizations generally possess hybrid structures. Answers to these questions can help identify the nature of the hybrid structure for the organization under consideration. As a result, the analyst can gain an appreciation of the organization’s structure and to understand how the structure might impact the way in which the organization functions.

OPTIA Prototype v1 (version 1).xlsm [Autosaved] - Microsoft Excel

| Question/Statement | Rationale | Response | Confidence Rating |
|---|--------------------|----------|---|
| 1. Where in the organization does the power for decision making reside? | Select response... | | <input type="radio"/> Not at all confident <input type="radio"/> Slightly confident <input type="radio"/> Moderately confident <input type="radio"/> Highly confident <input type="radio"/> Extremely confident |

| Question/Statement | Rationale | Response | Confidence Rating |
|--------------------------------|--------------------|----------|--|
| 2. Select the highest level of | Select response... | | <input type="radio"/> Not at all confident <input type="radio"/> Slightly confident |

Figure 10: Organizational Configuration Worksheet (Truncated)

4.1.4. Organizational Subsystems

The subsequent 13 worksheets in OPTIA contain questions about attributes relevant to each of the thirteen subsystems identified during the BIA workshop (refer to **Table 1**). Responses to the questions targeting these subsystems are intended to at least partially reveal how the organization operates and functions. The subsystem worksheets have from five to eight questions each. Although each subsystem has many more attributes that could be considered by the analysts, the research team decided to limit the number of questions to just a few thought to be most important.

To illustrate the subsystem questions, we will focus on the *4.8 Knowledge, Skills, and Abilities* subsystem (see **Figure 11**). Each subsystem worksheet begins by labeling the subsystem and offering a brief description of what this subsystem refers to within the organization's functions and operations. Questions on the subsystem worksheets generally reflect an attribute prevalent in the research literature regarding the subsystem. For the *Knowledge, Skills, and Abilities* subsystem, we relied heavily on the literature in the area of human resources management. Key

topics in this area are each addressed by a question. These topics include attracting talent, selecting talent, assessing member talents, effectively placing members in positions, training, forecasting talent needs, developing talent, and dealing effectively with separations from the organization. Questions addressing these topics can be answered with a response option that reflects the analyst's judgment about how effectively the organization handles these features of the *Knowledge, Skills, and Abilities* subsystem.

Questions asked about this subsystem, like all the subsystems, have an associated textbox to provide a rationale, a dropdown menu of response options, a confidence rating regarding the analyst's responses, a link to relevant research literature, and a hyperlink to evidence. In this fashion, by addressing the questions for each of the subsystems, an analyst will develop a knowledge base about how the organization operates and functions as well as identifies the evidence that supports the inferences generated as part of the rationale for these questions. An additional consequence of responding to the questions in OPTIA is that these responses will demonstrate the analyst's knowledge of the organization as well as gaps in the analyst's knowledge that would motivate more exploration for relevant evidence and further consideration of the rationale regarding a question. From early discussions with BIA principal analysts, it is evident that a comprehensive, system-oriented approach to examining organizations should aid analysts in recognizing the limits and gaps in their knowledge.

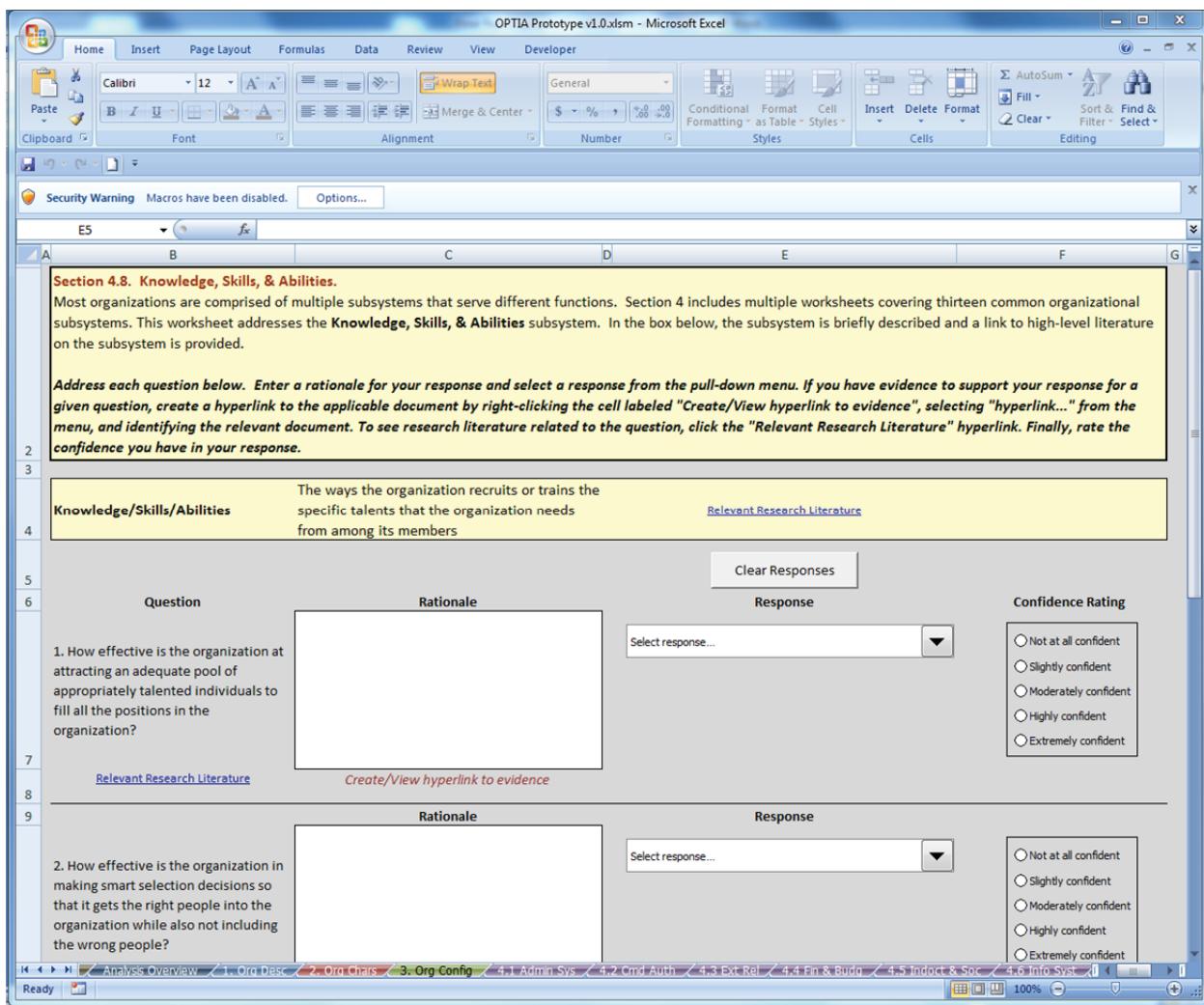


Figure 11: Depiction of the Knowledge, Skills, and Abilities Subsystem Worksheet (Truncated)

4.1.5. Subsystem Functioning

Once the analyst has advanced through the questions associated with the individual subsystems and provided assessments of the subsystem attributes, OPTIA asks the analysts to record general impressions about the organization in a worksheet that summarizes their judgments. **Figure 12** shows the System Functioning worksheet (note that the tab at the bottom is labeled as 5.0. Here, the analyst addresses five general questions about organizational functioning for each of the 13 subsystems. It is expected that the analyst address these questions only after all the other questions regarding the organization have been considered. Three of the five questions reflect judgments about the strategic functions of the subsystem within the organization. In particular, the analysts are asked to judge how influential the subsystem is in (a) determining organizational goals and objectives, (b) determining how to achieve the organizational goals and objectives, and (c) achieving organizational goals and objectives. These three questions reflect general notions of how the strategic functions of goal setting, planning, and execution are influenced by each of the subsystems.

After understanding how the organization performs across a number of attributes associated with each subsystem, the analyst may also be able to make judgments about the relative effectiveness and vulnerability of the subsystems. Thus, two additional questions are posed for each subsystem. One question asks the analyst to judge how effective each of the organization's subsystem is in performing its function. This is a summary judgment of the analyst's perspective on the overall effectiveness, which might be important for knowing which subsystems might be a wise or an unwise target for influence operations. Similarly, the final question addresses the analyst's judgment about the subsystem's vulnerability to external influence. Responses to the questions of subsystem effectiveness and vulnerability provide a summary judgment about which subsystem(s) in the organization might be more vulnerable to an influence attempt.

Like most other worksheets in OPTIA, the Subsystem Functioning worksheet enables analysts to enter assessment responses, provide a rationale and confidence rating for the response, and establish hyperlinks to evidence that support the assessment. Consequently, the *System Functioning* worksheet provides analysts an opportunity to make summary judgments about a number of critical functions of each of the subsystems in one worksheet in OPTIA, particularly after the analysts have completed the more extensive aspects of the organizational profile.

OPTIA Prototype v1.0.xlsx - Microsoft Excel

Section 5. Organizational Subsystem Summary.

The subsystems can vary in the degree to which they influence organizational decision making activities of *goal setting*, *planning*, and *execution*. They can also vary in the degree to which they are *effective* in their capacity and the degree to which they are *vulnerable* to external influences. This section helps to address these aspects of the analysis.

For each subsystem, address the five questions below. Enter a rationale for your response and select the response from the pull-down menu. If you have evidence to support your response for a given question, create a hyperlink to the applicable document by right-clicking the cell labeled "Create/View hyperlink to evidence", selecting "hyperlink...", from the menu, and identifying the relevant document. Finally, rate the confidence you have in your response.

1. Administrative Control The articulated operating procedures and regulating structures that guide the processes of the organization's routine activities

| Question/Statement | Rationale | Response | Confidence Rating |
|--|-----------|---|---|
| 1. To what degree is the Administrative Control subsystem influential in determining organizational goals and objectives (i.e., goal setting)? | | Create/View hyperlink to evidence Select response... | <input type="radio"/> Not at all confident <input type="radio"/> Slightly confident <input type="radio"/> Moderately confident <input type="radio"/> Highly confident <input type="radio"/> Extremely confident |
| 2. To what degree is the Administrative Control subsystem influential in determining how to achieve goals and objectives (i.e., planning)? | | Create/View hyperlink to evidence Select response... | <input type="radio"/> Not at all confident <input type="radio"/> Slightly confident <input type="radio"/> Moderately confident <input type="radio"/> Highly confident <input type="radio"/> Extremely confident |
| 3. To what degree is the Administrative Control subsystem influential in achieving an organizational goal or objective (i.e., execution)? | | Create/View hyperlink to evidence Select response... | <input type="radio"/> Not at all confident <input type="radio"/> Slightly confident <input type="radio"/> Moderately confident <input type="radio"/> Highly confident <input type="radio"/> Extremely confident |
| 4. To what degree is the Administrative Control subsystem effective in performing its function? | | Create/View hyperlink to evidence Select response... | <input type="radio"/> Not at all confident <input type="radio"/> Slightly confident <input type="radio"/> Moderately confident <input type="radio"/> Highly confident <input type="radio"/> Extremely confident |
| 5. To what degree might the Administrative Control subsystem be vulnerable to external influence? | | Create/View hyperlink to evidence Select response... | <input type="radio"/> Not at all confident <input type="radio"/> Slightly confident <input type="radio"/> Moderately confident <input type="radio"/> Highly confident <input type="radio"/> Extremely confident |

Figure 12: System Functioning Worksheet (Truncated)

4.1.6. Summary Graphics

OPTIA includes a final worksheet that translates certain responses from the System Functioning and Organizational Configuration worksheets into a set of graphical representations. The purpose of the Summary Graphics worksheet is to give analysts who have completed the analysis for an organizational profile a summary level visual depiction of their responses to questions involving organizational configuration, the power and influence of organizational components, the roles that subsystems play in setting goals and making and executing plans, and perceived

effectiveness and vulnerability of these subsystems within the organization. An understanding of these aspects of the organization should provide insights into potential avenues of influence.

Because they utilize assessment response values from other worksheets, the graphical representations are not populated unless the associated worksheets have been completed by the analyst. Below, we introduce several figures that are depicted on the Summary Graphics worksheet. To generate these figures for illustrative purposes, hypothetical analyst assessment responses to a fictional organization were entered in the worksheets.

The first depiction on the Summary Graphics worksheet displays the degree to which the various subsystems are thought to influence organizational goals, planning and execution. **Figure 13** shows how this graphic might appear when hypothetical response values have been entered in the various worksheets.

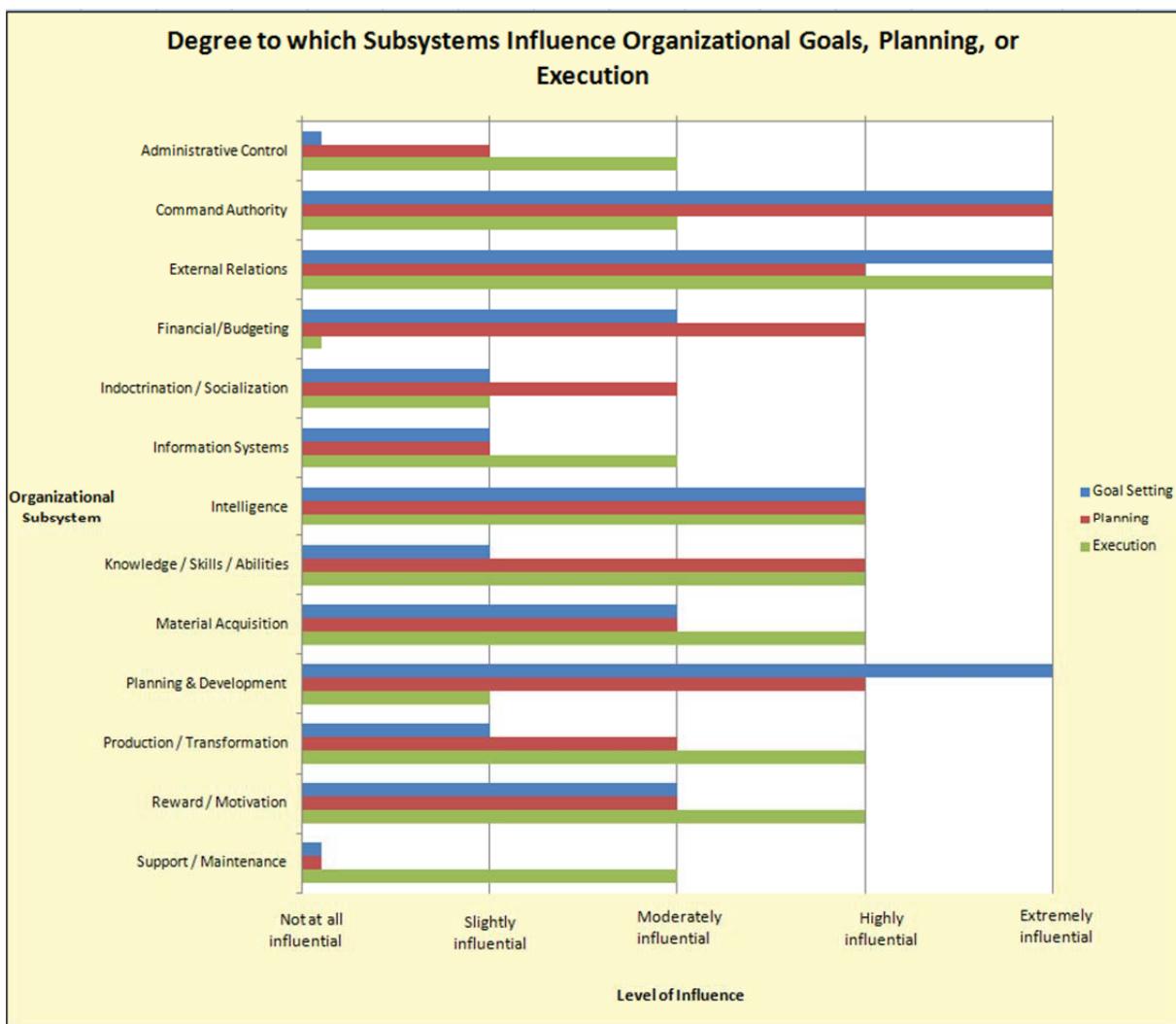


Figure 13: Graphical Representation of the Subsystems' Influences on the Organization's Strategic Functions of Goal Setting, Planning and Execution

Similarly, **Figure 14** depicts hypothetical responses about the effectiveness and vulnerability of an organization's subsystems. In addition, the analysts' overall confidence in their judgments about the subsystem is included in this chart. This confidence score is an average of the aggregate confidence judgments by the analyst for all the questions posed regarding that subsystem. In this way, this confidence score reflects a proxy for the analysts' understanding of the subsystem. This way, the analyst's summary judgments about the subsystem effectiveness and vulnerability can be considered alongside a measure of the analyst's self-reported understanding of the subsystem.

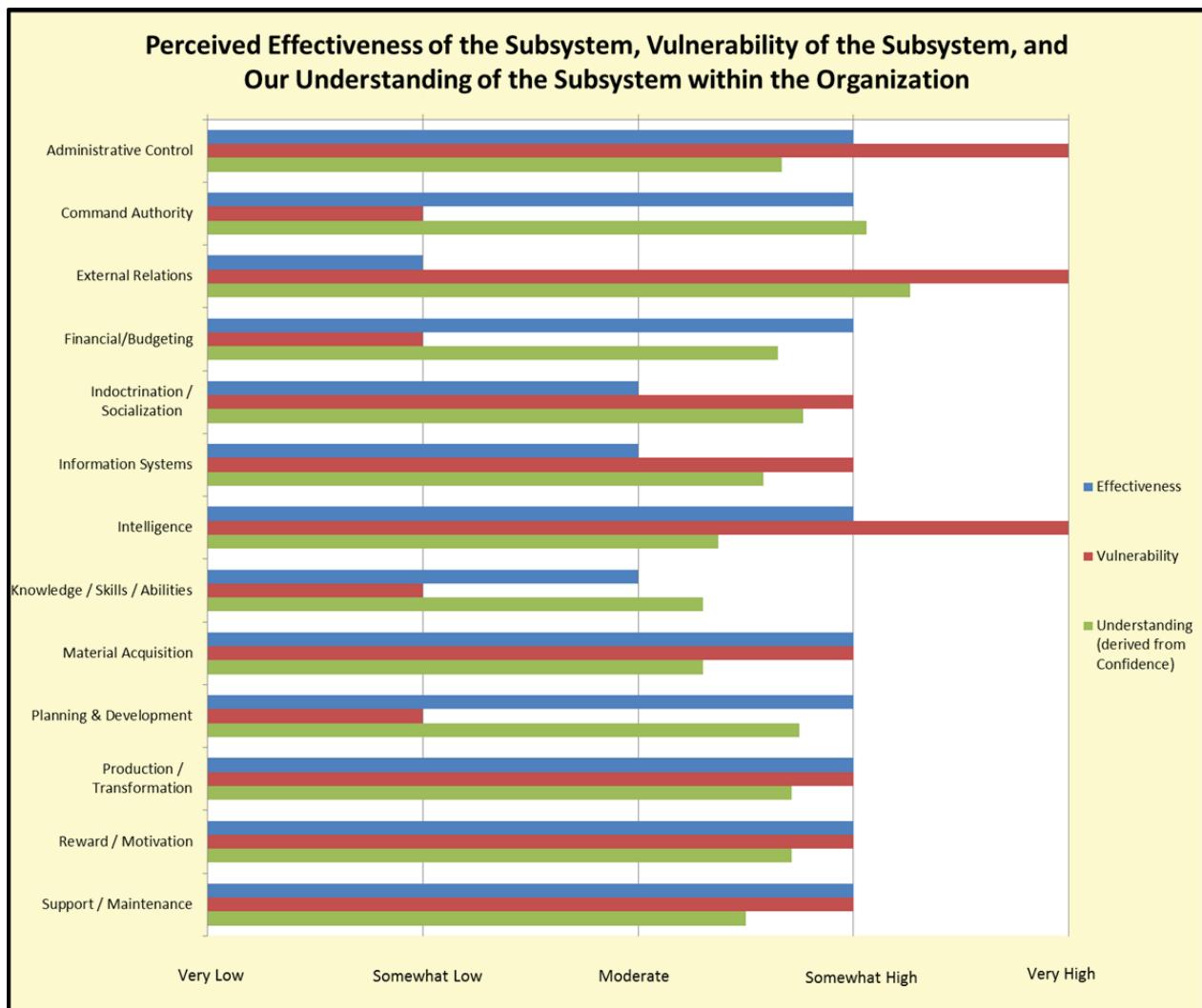


Figure 14: Graphical Representation of the Summary Judgments of the Effectiveness, Vulnerability, and Understanding of the Subsystems' as Judged by Analysts

Discussions with BIA principal analysts led researchers to believe that several additional graphical representations might be useful for summarizing other aspects of the organization. In particular, a representation of the configuration of the organizational structure from a Mintzberg perspective was thought to be useful. This is accomplished with two additional graphics on the Summary Graphics worksheet. The first (**Figure 15**), graphically depicts the degree to which the organization under consideration resembles each of Mintzberg's pure organizational forms. As in

the previous graphic, this is accompanied by an indication of the analyst's confidence in that judgment. The second (**Figure 16**) illustrates the degree to which the different components of the organization from Mintzberg's conceptualization (e.g., middle line, operating core, strategic apex) have power and influence in the organization's decision making.

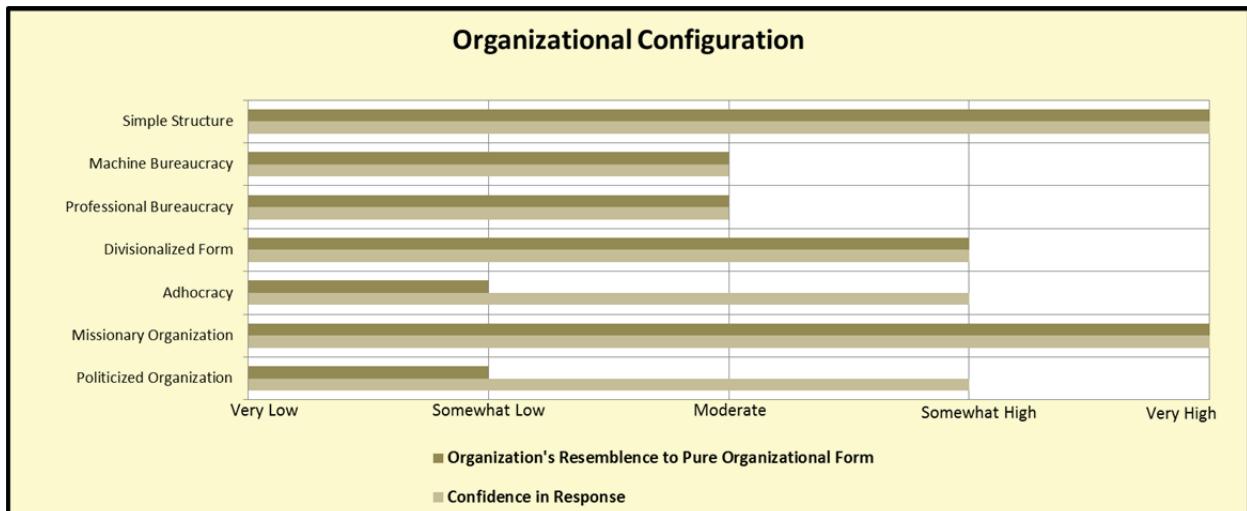


Figure 15: Graphical Depiction of the Resemblance of the Organization to Pure Organizational Forms

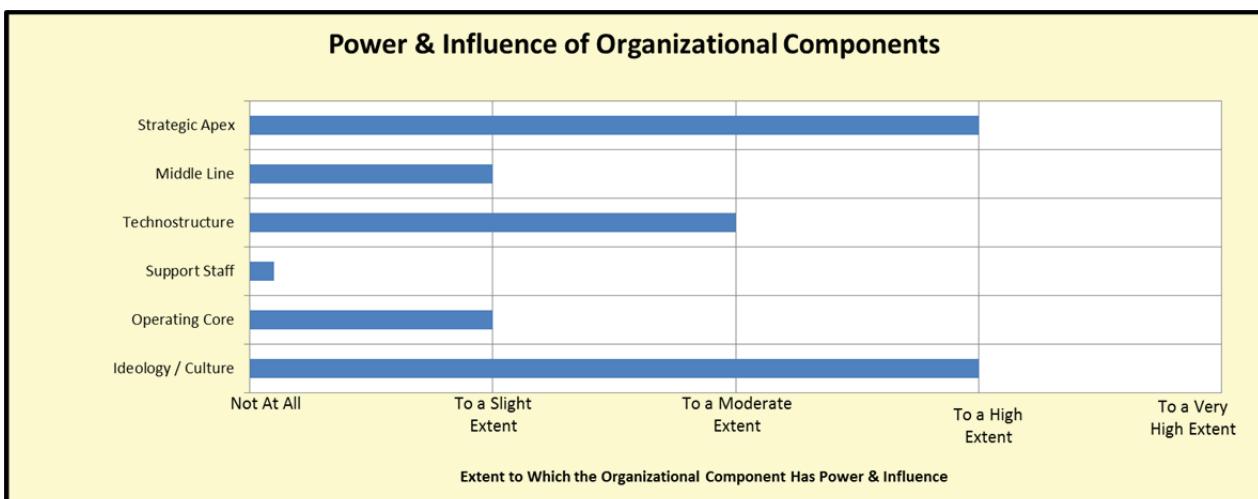


Figure 16: Summary of Rated Power and Influence of Organizational Components

In combination, the different figures from the Summary Graphics worksheet provide visual representations of various features of the organization, which can be useful as a summary of the understanding that is captured by the judgments and analysis that went into the profile constructed for the organization of interest.

4.1.7. Additional OPTIA Functions

Finally, the OPTIA tool includes several additional functions that can help analysts perform their organizational behavior profiles more effectively. These include a mechanism for clearing analyst's responses from a worksheet, exporting analysis content, and rewording question and

response options. Most worksheets that provide for response entry by the analyst have a *Clear Responses* action button that can clear all user-entered responses on the given page. This is accomplished via an Excel macro activated once the *Clear Responses* button is selected and a subsequent action confirmation box is selected. All fields that are not response entry fields are locked to prevent accidental deletion or modification.

Additionally, the content from an analysis with OPTIA can be exported from the worksheets into a Microsoft Word document to facilitate the analyst in developing Microsoft Word-based reports. Although OPTIA offers an easy-to-use interface for entering responses, analysts suggested it would be beneficial to enable the user to export the responses in OPTIA to a Microsoft Word document. This would allow the analyst to more easily incorporate OPTIA responses into written reports. To address this recommendation, a Visual Basic for Applications (VBA) was developed with code that can be launched within OPTIA. By clicking a button on an OPTIA worksheet, the VBA software reads user-entered responses stored in the spreadsheet (i.e., rationales, response options selected and confidence ratings), creates a Word document, constructs formatted tables in the Word document, and then transfers the responses to the tables. There is one table per question. If an analyst changes the responses in OPTIA after the Word document is created, rerunning the application will transfer the newest responses to the table associated with that question. In this way, the code behaves similarly to running a report on a database, providing the latest results while keeping the structure of the Word document constant.

4.1.8. Hidden Setup and Response Worksheets

In addition to the visible worksheets that analysts work with in OPTIA, there are eight hidden worksheets -- worksheets that are not visible to the user unless Excel's "unhide" feature is used to make them visible. The purpose of these eight hidden worksheets is twofold. Four of the worksheets facilitate easy setup and management of *content* of the visible worksheets in which the analyst enters responses. As an example, a setup worksheet for the Organizational Characteristics worksheet is shown in **Figure 17**. The hidden setup worksheet is where OPTIA developers entered the questions to be asked and the response options to be made available on the response pull-down menu for each question. On one page, a researcher or developer can see and specify all the questions to be asked on a worksheet and can also specify the response options to be associated with these questions. Because the cells in the worksheets in OPTIA viewed and used by the analysts contain references to these setup worksheets, changes in the question and response options entered in the setup worksheets are propagated automatically to the OPTIA worksheet viewed by analysts.

| | A | B | C | D | E | F | Operating Power Over Orga Po |
|---|----------------------------|--|--|---|--|--|--|
| 1 | Characteristic | Operating Environment: Stability | Operating Environment: Complexity | Operating Environment: Diversity | Operating Environment: Hostility | Operating Environment: Subject to External Control | |
| 2 | Question | 1. How predictable (stable) is the environment in which the organization operates? (i.e., how predictable is the operating environment with regard to its impact on the organization's functioning?) | 2. How complex is the organization's operating environment? (i.e., to what extent does it require the organization to have sophisticated knowledge about products, technologies, customers, enemies, etc?) | 3. How diverse is the "market" that the organization serves? (i.e., to what degree does the organization provide diverse services, serve diverse groups, or work in diverse locations?) | 4. How hostile is the organization's operating environment? (Hostility can come from enemies, competitors, relations with unions, government regulation, etc.) | 5. To what degree is the organization controlled - directly or indirectly - by an external organization? (e.g., a board of directors, a higher-level government agency, an exclusive supplier) | 6. To what degree is the organization controlled by other org populations? |
| 3 | Response Set | Select response... | Select response... | Select response... | Select response... | Select response... | Select response... |
| 4 | 1 - Not at all predictable | 1 - Very simple -- no sophisticated knowledge required | 1 - Not at all diverse | 1 - Not at all hostile | 1 - Not at all controlled/influenced | 1 - Not at all powerful | |
| 5 | 2 - Slightly predictable | 2 - Simple -- mostly unsophisticated knowledge required | 2 - Slightly diverse | 2 - Slightly hostile | 2 - Slightly controlled/influenced | 2 - Minimally powerful | |
| 6 | 3 - Somewhat predictable | 3 - Somewhat Complex -- some sophisticated knowledge required | 3 - Moderately diverse | 3 - Moderately hostile | 3 - Moderately controlled/influenced | 3 - Somewhat powerful | |
| 7 | 4 - Predictable | 4 - Complex - sophisticated knowledge required | 4 - Diverse | 4 - Hostile | 4 - Controlled/influenced | 4 - Powerful | |
| 8 | 5 - Very predictable | 5 - Very Complex -- very sophisticated knowledge required | 5 - Very diverse | 5 - Very hostile | 5 - Highly controlled/influenced | 5 - Very powerful | |

Figure 17: Organizational Characteristics Setup Screen

The second type of hidden worksheet stores analyst *responses*. See the hidden response tab for Organizational Characteristics in **Figure 18**. The purpose of the response tabs is to organize and format the analyst's responses in a manner that supports use on the summary graphics page and also exportation to a Microsoft Word Document.

| A | B | C | D | E | F |
|--|--|----------|--------------|-------------------|---|
| Question ID | Question | Response | Adj Response | Confidence Rating | Rationale |
| 1 Operating Environment: Stability | 1. How predictable (stable) is the environment in which the organization operates? (i.e., how predictable is the operating environment with regard to its impact on the organization's functioning?) | 5 | 4 | 3 | Operating environment is typically stable and predictable. The organization has well-defined and long-established (albeit many elicit) business interests in the community. These interests and the revenue they generate have both remained relatively constant over several years. |
| 2 Operating Environment: Complexity | 2. How complex is the organization's operating environment? (i.e., to what extent does it require the organization to have sophisticated knowledge about products, technologies, customers, enemies, etc?) | 3 | 2 | 4 | The organization does not work with sophisticated products or technologies either in the legal/illegal business products (alcohol, olive oil, meats, personal protection, influence). They do have a relatively deep understanding of the local criminal justice system and a means to influence it when necessary. |
| 3 Operating Environment: Diversity | 3. How diverse is the "market" that the organization serves? (i.e., to what degree does the organization provide diverse services, serve diverse groups, or work in diverse locations?) | 5 | 4 | 4 | Diverse. The organization has a diverse portfolio of both legal and illegal revenue-generating enterprises. These include imports, and retail food sales, a protection racket, money laundering, and bootlegging. |
| 4 | 4. How hostile is the organization's operating environment? | | | | |

Figure 18: Organizational Characteristics Response Worksheet

(normally hidden from user)

It should be noted that rewording existing questions or the set of response options in the setup worksheets require minor changes and should not impact how OPTIA functions. However, more intensive developer involvement will be involved if questions are added or deleted, as such changes would impact how the questions are presented, how summary graphics are derived, and how the responses are exported.

4.2 Initial OPTIA Evaluation

During the initial OPTIA development process, after most of the functionality described above had been implemented but before the relevant research summaries had been written, the research team introduced an early prototype of OPTIA to behavioral influence analysts at the NASIC. In an attempt to test OPTIA and the conceptual model from with the research team, the team chose to step through each worksheet of OPTIA entering responses that would correspond to a sample organization. When selecting a sample organization a number of objectives were considered. (1) The organization resembles the types of organization for which NASIC might want develop an organizational profile, (2) The organization is fictional so as to preclude any classification issues or political sensitivity, (3) The organization should have sufficient detailed information so that an analysis was possible but not so extensive such that years would be needed to conduct an analysis. Consequently, the team chose to examine the Corleone criminal family enterprises from the book and movie "*The Godfather*." As a fictional organization, this criminal organization was an ideal choice because most all information about the organization was available in a single book and three movies. Moreover, as a criminal enterprise, the organization sought ways to conceal information about the organization and its members. Interestingly, as a function of this test of OPTIA, it also became apparent that exploiting and defense against

vulnerabilities were critical elements of the organization's activities. The test implementation of OPTIA with regard to analysis of the Corleone organization was quite successful. As a result of this test, a few instances of jargon were identified in the OPTIA and subsequently removed. Also, various worksheets were restructured to the format described above to improve flow. It also became obvious that the Corleone criminal family was a useful way of illustrating the OPTIA and its functioning. BIA principal analysts quickly asked if a demonstration workshop of the OPTIA tool for BIA analysts could be conducted based on the "*The Godfather*" as an illustrative organization.

In February 2012, Professor Hinsz led a pair of workshops illustrating the functionality of OPTIA for approximately twenty BIA analysts and five AFRL scientists. The workshops introduced the attendees to the approach that OPTIA provides for analysis, the conceptual model involved, as well as the multi-layered approach used in the tool's development. The workshops allowed the attendees to respond to the then current prototype version of OPTIA and to see its various features. In addition, the attendees watched a 30-minute clip of segments of "*The Godfather*" movie. Afterwards, they were directed through the OPTIA to learn the different features and how it could be utilized to perform organizational behavior profiles.

The attendees offered feedback regarding the OPTIA as they had seen it demonstrated, and this feedback was very positive. Also of interest was the observation that BIA analysts quickly took to the tool and could anticipate its features. There appeared to be no confusion regarding how OPTIA functions. It was also obvious that the analysts attending the workshop became very engaged in its use. Results of this workshop confirmed that the OPTIA prototype is the type of technology that analysts desire. Moreover, many statements by participants indicated that OPTIA would be a valuable addition to their approaches to conducting organizational behavior profiles. At last report, members of the BIA flight were using an early OPTIA prototype and were looking forward to the initial full version (OPTIA v1.0).

5.0 THE ORGANIZATIONAL VULNERABILITY WORKSHOP

In early 2014, after the initial OPTIA prototype had been completed and evaluated, the DVA project team held a second workshop to further consider how organizational vulnerabilities could be characterized. The goal was to better understand organizational vulnerabilities and how analysts and targeteers could incorporate knowledge of the vulnerabilities when considering non-kinetic targeting options.

Like the first workshop, the Organizational Vulnerabilities Workshop was held at the Tec^Edge facility at the Wright Brothers Institute in Dayton, OH. The workshop brought USAF intelligence analysts together with experts in the field of organizational science to consider the challenges analysts face and potential approaches and resources that might help the analysts to characterize organizational vulnerability. A primary aim was to determine whether a comprehensive, comprehensible, integrated, and scientific literature-based organizational vulnerability framework could be uncovered or developed. Such a framework would aid in understanding and characterizing organizational vulnerabilities for subsequent influence targeting operations.

5.1 Participants

Workshop participants included five intelligence analysts interested in further exploring organizational vulnerabilities, six organizational and social scientists who brought different perspectives on how organizational vulnerabilities might be characterized, an individual with cyber vulnerability expertise, a member of the Air Force Targeting Center (AFTC) who understood the non-kinetic targeting process, and the DVA research project team. Importantly, two facilitators from the Wright Brothers Institute guided much of the discussion and dialogue that occurred in the workshop.

5.1.1. Workshop Objectives

The general goal of the workshop was to determine if a framework for characterizing organizational vulnerabilities could be identified. This framework would then serve as a foundation to help analysts in their efforts to understand the types of organizational vulnerabilities that might exist for the organizations they may try to influence. A related high-level goal involved specifying observable characteristics or “indicators” of organizational vulnerability. A brief literature review conducted prior to the workshop suggested that effective characterizations of organizational vulnerabilities do exist in the sense that they identify attributes that make an organization, ineffective, inefficient, or non-competitive (Daft, 2010; Miner, 2006; Robbins, 1994; Wagner & Hollenbeck, 2010). However, a true framework or typology for organizational vulnerability was not uncovered. This failure to find a reasonable framework suggested to the workshop planners that a framework was unlikely to emerge from the knowledge base of the workshop attendees. However, the planning team hoped that with the many perspectives being brought to the question, some representation might develop as a function of the dialogue and discussion.

The research team identified several workshop objectives that would help achieve the workshop goal. An initial objective was to come to a shared definition of the term “organizational vulnerability.” This shared definition would be based on a mutual understanding from both the analysts who have operational needs for understanding organizational vulnerabilities and the subject matter experts who have the scientific-based knowledge about organizational

vulnerabilities. As a consequence, the research team predicted that the definition of organizational vulnerabilities would likely be generic, encompassing the concept of vulnerability across all types of organizations, as opposed to a specific type (e.g., military units).

Another objective of the workshop was to understand, from the analysts' and targeteers' perspective, the 'problem space' of organizational vulnerabilities. The researchers and planners wanted to fully understand what organizational vulnerabilities mean to intelligence analysts. They also wanted to understand what challenges the analysts face in identifying vulnerabilities and translating those vulnerabilities into influence targeting opportunities.

In an effort to take full advantage of the opportunity to sit down with leading academicians in the organizational sciences, the research team formed an objective of querying the subject matter experts about key literatures. The plan was to encourage a comprehensive and integrative discussion of the relevant literatures from the social and organization sciences that could inform the focus on organizational vulnerabilities. If this literature was discussed with the analysts and AFRL personnel, then these non-experts would be able to learn about factors and issues related to organizational vulnerabilities. The discussion might also clarify issues and highlight gaps in the analysts understanding of organizations which could contribute a means for identifying organizational vulnerabilities.

5.2 Workshop Process

As was explained by one of the facilitators before the workshop, the process required for a weakly defined topic such as organizational vulnerabilities would require an exploration of the problem space. For such a discussion, differences in perspective should be brought together in a relatively non-evaluative environment so that the workshop panel can have an open and free-flowing discussion. The workshop participants would need to be engaged with the workshop topic (e.g., organizational vulnerabilities). Moreover, for a framework for organizational vulnerabilities to be generated or identified, the discussion would need to go through a number of phases. In general, the initial phases would involve bringing divergent ideas to bear on the question of organizational vulnerabilities. After this specification of the problem space, a convergent process could begin. This process would bring these divergent notions together in a way such that the members can achieve consensus. From this convergence, it would then be possible to characterize organizational vulnerabilities in a conceptual framework.

During the 1 ½ day workshop, the two facilitators followed the divergent/convergent workshop approach described above, initiating a series of discussions and exercises aimed at framing the problem, examining it from different perspectives, and integrating ideas in a fashion that would be useful to the end users at NASIC and the AFTC. Below we provide a brief overview of the process.

5.2.1. Framing the Problem

The first phase of the workshop involved key participants articulating their own personal objectives for the workshop. The process of soliciting these objectives made apparent the need to develop a common definition of the term "organizational vulnerability", and the facilitators quickly transitioned into an exercise in which such a definition was developed. To take advantage of the various perspectives of the workshop participants, all of them were asked to provide their definition for organizational vulnerabilities. Each member wrote down their definition and then in sequence, the different members stated their definition and indicated how

the definition was similar to and different from other definitions. This discussion resulted in a number of inferences: (1) for purposes of the workshop, an organizational vulnerability was defined simply as “an aspect of an organization that could be exploited”, (2) a particular type of vulnerability that is often exploited includes observable frictions, fissures, and disruptions within the organization; and 3) not all attempts to influence an organization are an attempt to exploit a vulnerability.

5.2.2. Describing Challenges

The next phase involved the end users describing the challenges they face as analysts. This included a discussion of their views on organizational vulnerability and the requirements for a successful characterization of vulnerability. A senior analyst from NASIC’s BIA Flight focused on organizational vulnerabilities with regard to behavioral influences and organizational behavior profiling. A targeteer from the AFTC then focused on targeting in terms of understanding what targets would be identified and how influence techniques might be utilized to achieve desired outcomes. An important aspect of this discussion was the notion that the targeting is driven by the description of the commander’s intent. The commander’s intent describes the desired state of the world. This may have direct or indirect implications with regard to a desired behavior on the part of a specific organization or population of people. In addition, targeting is not only a function of the target’s strengths and weaknesses, but also of our ability to exploit them.

The discussion following the analysts’ descriptions broadened and built upon these issues to bring divergent perspectives into consideration. In particular, discussion centered on two main themes: 1) vulnerabilities are often associated with susceptibility to influence from external entities, and 2) it is often difficult to define boundaries around an organization being analyzed (e.g., in an influence campaign, the target of interest may be a subset of an organization, or even an external entity—another group or organization—that can itself influence the organization of interest.)

Following this discussion, the facilitators led an exercise in which all participants described what they believed were critical challenges faced by the analysts with particular reference to organizational vulnerabilities. A long list of challenges was identified, and these challenges were then discussed so that all participants had an idea of the nature of the problem and the reasons why this could be a critical challenge for analysts. Consistent with the convergence principle mentioned above, certain notions and aspects of the challenges appeared repeatedly during different topics of discussion. After this discussion and elaboration, the analysts and the targeteer in attendance were asked to downselect from the list to identify their “top” challenges. This was accomplished using a technique where they each selected their top three challenges from the list that had been compiled in the exercise. Those three challenges with the most “votes” were rated as the most important.

The top challenges identified by the end users included the following:

- The dynamism of both organizations and their environments makes it a challenge to maintain a full and current understanding of a contextually-situated organization
- There is not a clear and simple pathway from understanding/characterizing vulnerabilities to selection of appropriate influence tactics

- There is not a robust, identified set of “observables” that analysts can use to assess vulnerability in organizations

These top three challenges were discussed in depth, with analysts elaborating to help the subject matter experts gain a full understanding of the problem. In turn, the subject matter experts offered their insights on the problem. Below, we summarize some of the key discussion points.

Dynamism. Analysts often have six to nine months to complete an analysis. Within this timeframe, conditions within the organization and also in the operating environment can change drastically. Analysts need a way to quickly and continuously maintain the analyses. A “wiki” like approach to developing and maintaining analyses was mentioned several times. It was also mentioned that a dynamic organization and/or dynamic operating environment can expose vulnerabilities. During periods of change, organizations are generally vulnerable. During organizational change, relationships, communication, loyalties, and lines of authority can all be tested. When the operational environment changes, the organization’s ability to adapt and align itself with the environment will be tested. If there are weaknesses or fissures during such changes, the organization is vulnerable.

Pathways from Vulnerability to Influence. The challenge is to get from a description of the organization to understanding of strengths and vulnerabilities to enable influence targeting. Organizations are always context sensitive and context situated, as are opportunities for influence. Thus, a generalized analysis of the organization (e.g., is it horizontally or vertically integrated, co-located or geographically dispersed, a product or service organization, mature or a start-up) will help us identify generalized vulnerabilities; however, specific influence targeting efforts will always require an understanding of the context. This context, as described above, may be very dynamic. Targeteers, with an understanding of specific desired effects, must work with analysts who have an understanding of the generalized vulnerabilities. They can then collaborate and iterate to identify courses of action that incorporate current context.

Need for Observables. In order to better assess potential vulnerabilities in an organization, analysts need to know what to look for. They need to understand the ways in which vulnerabilities manifest themselves and observable indicators of these manifestations. Ideally, these will be rooted in established literature from the organizational sciences. Further, they need to know *why* they are vulnerabilities. The better analysts and targeteers can understand why an observed characteristic makes an organization vulnerable, the better they can tailor influence attempts to effectively exploit the weakness. While there was relatively little discussion of specific, generalized indicators of vulnerability, a recurring theme was that analysts would use both inductive and deductive reasoning in an attempt to determine whether an observed organizational characteristic or behavior was in fact a meaningful indicator of a given vulnerability.

5.2.3. Convergence

Finally, in an attempt to emphasize the convergence on what is known about organizational vulnerabilities that might be of value to the analysts, the organization and social science subject matter experts were asked to strive towards a framework about ways to characterize organizational vulnerabilities. This discussion was led by the subject matter experts, however, the entire group participated by asking for clarification and elaboration as well as challenging the experts to

consider how the notions discussed would be concretely related to the situations faced by the analysts.

The discussion initially focused on fundamental processes in organizations – integration, differentiation, fragmentation – which are common to organizations (Mintzberg, 1979). Then the discussion turned to the input-process-output model of organizations which is common to systems approaches (e.g., Katz & Kahn, 1978). In the process of this discussion, a few key points regarding organizational vulnerabilities were raised.

- A vulnerability is a failure for the organization to address a requirement for its effective functioning (“goodness”).
- This vulnerability might be identified by uncovering what features of an organization exist at a suboptimal or ineffective level (i.e., benchmarking). That is, a first pass at identifying vulnerabilities in an organization can be made by detecting discrepancies between what an organization should have on the feature (optimum, desired) and the actual state of the organization on that feature.
- Organizational vulnerabilities exist in the rich context in which the organization is embedded and that organizational contexts vary on a number of dimensions.
- States of an organization (e.g., economic stress) are a basis for identifying indicators of organizational vulnerabilities.
- Analysts are comfortable with a “systems approach” to organizations, and this approach leads to the view that misalignment among systems of the organization can be an important indicator of vulnerability.

5.3 Workshop Outcomes

Overall, the workshop was very successful. Many of the workshop objectives as defined by the users and the workshop sponsor were achieved. A wide variety of perspectives were brought together in a discussion in which analysts experiences and challenges were considered.

Moreover, organizational vulnerabilities were examined in depth to help the workshop participants understand the complexity of the related issues. Through the discussions, a variety of conclusions, inferences, and generalizations could be drawn about analysis and organizational vulnerabilities. As stated earlier, a documented “framework” for considering organizational vulnerability (especially from an influence targeting perspective) does not exist in the literature, nor was it fully achieved during the workshop itself; however, we believe that the workshop discussions yielded the foundation on which a framework can be built. In particular, by fully framing the problem and identifying necessary linkages between analysis and targeting, a framework for thinking about organizational vulnerability can emerge.

One such notional framework is depicted in **Figure 19**. It assumes that a key component of the organizational profiles developed by BIA analysts is (or will be) an organizational vulnerability analysis. Based on discussion at the workshop, we learned that organizational vulnerability can be approached from at least three perspectives. To the extent that an organization performs sub-optimally, it is vulnerable. Relative to its peers or competitors, it may be ineffective and/or inefficient in some aspect of its performance. A *performance analysis* would examine the strengths and weaknesses and the overall effectiveness of each subsystem. It would also examine the degree to which the organization is structured in a manner well-suited to its operating environment, as misalignments between organizational structure (or configuration) and

the environment generally lead to poorer performance. A second perspective would examine the decision processes within the organization to identify where key decisions are made. This *decision process analysis* would identify “centers of gravity” in an organization (i.e., power centers, where key decisions are made), and would characterize the degree to which and the manner in which decision making is decentralized in the organization. Knowing how and where decisions are made offers insights into how they can be influenced. Finally, an *external influences* analysis would examine the extent to which the organization is influenced by external entities. If the organization and its actions can easily be influenced by public opinion, by regulations, or by pressure from their partners or suppliers; then opportunities arise to achieve the desired organizational behavior by influencing the external organizations, which may be far more accessible than the targeted organization itself. Examining vulnerability from these three perspectives results in the identification of a wide range of potential avenues to organizational influence. The avenues or entry points each become more specific targets of influence within or outside the organization.

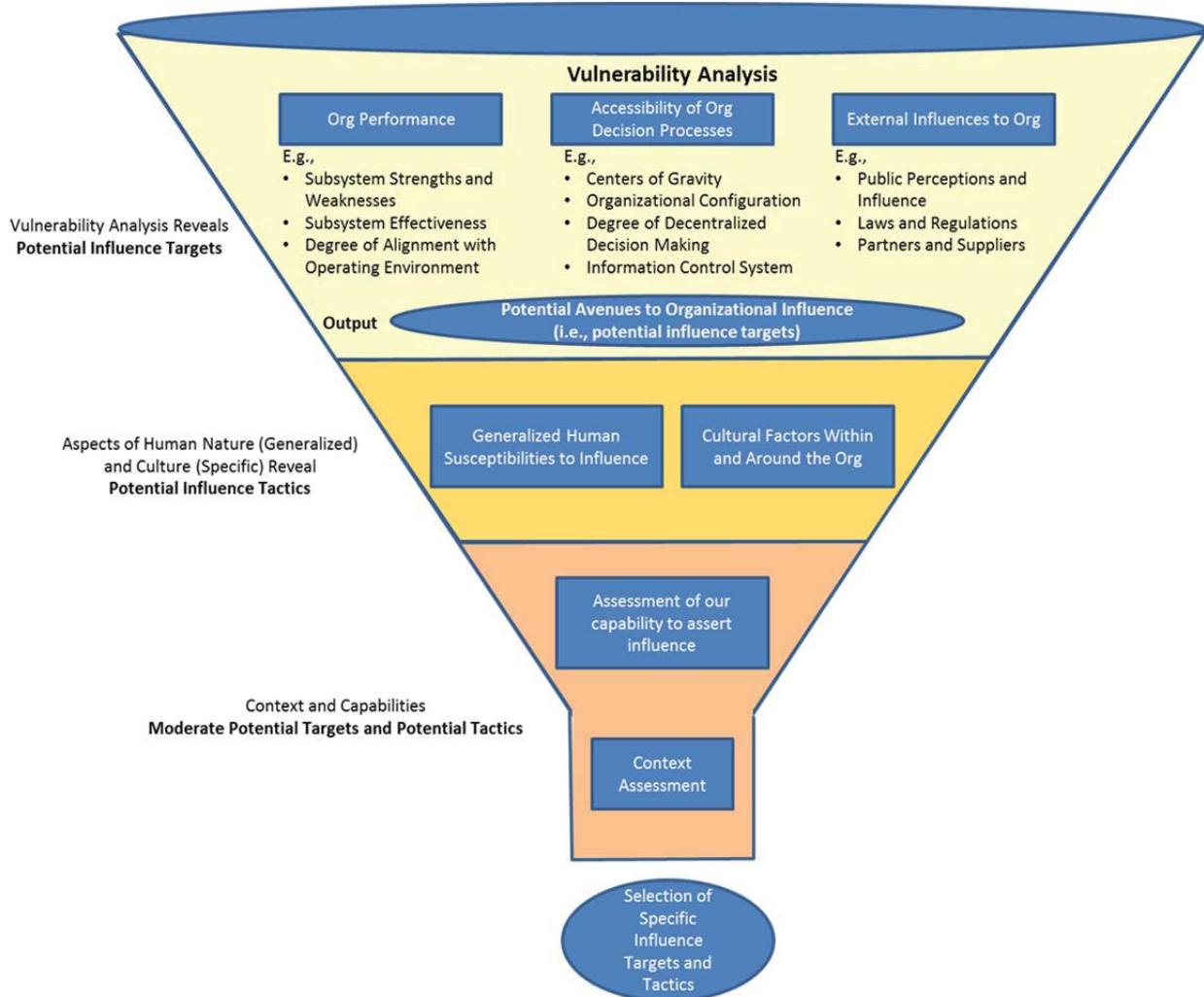


Figure 19: A Notional Framework for Organizational Vulnerability

In addition to the organizational attributes, analysts can examine and document human and cultural characteristics that might influence the degree to which behavior in the organization could be influenced. These would include well-established, scientific findings with regard to human psychology, motivation, and influence that are thought to be generalizable across the human population (e.g., need for affiliation, greed, honor, fear, respect). But they would also include cultural characteristics specific to the organization and/or the region in which its members are affiliated (e.g., customs, gender roles). These cultural characteristics often moderate some of the more generalized characteristics of human nature. By understanding these characteristics, targeteers can begin to develop an arsenal of potential influence tactics that could be employed against members of the given organization.

The organizational profiles, the potential avenues of influence they uncover, and the human and cultural characteristics pertaining to influence can all be created and maintained prior to any conflict or engagement involving the given organization. Once a conflict begins and military commanders specify a desired behavior that involves the organization (i.e., intent for specific effects-based targeting), targeteers and analysts can begin to examine potential targets with respect to their ability to achieve the stated effects, either directly or indirectly. This will begin to narrow down the number of potential avenues of influence.

As pointed out by the subject matter expert from the AFTC, the target systems analysis process must consider our own (e.g., US or coalition partners) strengths and weaknesses in addition to those of the target. Thus, the list of potential targets and tactics will be further narrowed down by an examination of our own ability to access the intended target and assert the desired influence. We may choose to forego planning an influence campaign on a highly desired target to whom we have little access, and instead choose a slightly lesser target to whom we have easy access and opportunity for influence.

Finally, in narrowing down potential targets and the tactics that could be used to influence them, we must keep in mind the current state of events that provide context for both the organization's behavior and our ability to influence it. As was stated multiple times in the workshop, behavior is context sensitive and context situated. Therefore, we must constantly examine the context in which the targeted organization operates. This consideration actually takes place throughout the entire analysis process, but because situations can change rapidly, it should also be part of a last review before targeting is initiated, and it should also be continually assessed throughout the targeting campaign itself.

6.0 DISCUSSION

6.1 Accomplishments

This effort sought to provide NASIC BIAs with a technology that can aid them in developing organizational behavior profiles. Building upon emerging analysis methodologies that focus on the rationale behind inferences in analysis, the OPTIA tool employs a set of questions concerning the organization under investigation to direct the analysts' attention to critical features of organizational structure, characteristics, operation and functioning. This tool requires analysts to examine available evidence regarding the organization, pursue related evidence that clarifies issues, construct a rationale for the claims an analyst might make, and then give responses indicating the analysts' judgment. By using the OPTIA tool, the analyst can develop the elements of a comprehensive organizational behavior profile thus uncovering potential vulnerabilities and pathways of influence.

A hallmark of this research effort is that the analysts in the BIA flight were invited to provide recommendations, points of clarification, and desires for additional options throughout the period of performance. Before any attempts to define how the tool might be configured were initiated, the research team met with members of the BIA flight to determine what question and problem would best improve their analyses. The consensus was that NASIC analysts needed an aid for the development of organizational behavior profiles. The focus of the initial workshop with the panel members was on theoretical and conceptual approaches that would most likely facilitate the analysts in constructing a practical and comprehensive organizational behavior profile. Input from BIA principal analysts was solicited at every step in the development of the approach, the conceptual framework that led to the model, and the transformation of the two into a tool. Focusing on the analysts' feedback on usability and functionality insures the OPTIA tool will have a direct and positive impact on the intelligence products they develop. Much of the success in the adoption and use of OPTIA results from the willingness of the BIA members to provide insights and recommendations for OPTIA's development. The feedback continued through the entire project, including the Organizational Vulnerability workshop, during which analysts and targeteers began to sketch out their next challenge, vulnerability assessment.

Although the OPTIA tool was targeted for implementation in an applied environment (an operational intelligence analysis organization such as NASIC's BIA flight), OPTIA reflects leading organizational theories from academic literature. To support this, the attendees at the workshop were asked to provide theoretically-grounded recommendations for a conceptual foundation to guide the development of the tool. Additionally, the members of the BIA flight articulated that they wanted to make sure that the tool developed and delivered to them was based on the most useful aspects of organizational, behavioral, and social science. This request resonated with the research team because of the clear value that good theory has for applied efforts ("there is nothing as practical as good theory" Lewin, 1943). Theoretically and conceptually, OPTIA was founded upon the organizational research literature associated with Katz and Kahn's systems theory approach and Mintzberg's organizational configurations theorizing. Organizational theory notions were also included in the way organizations were characterized. As each of the 13 subsystems was incorporated into OPTIA, the questions sets for the subsystems were designed to draw upon relevant research and theory, much of which was then described in the Relevant Research Literature summaries linked to the questions in these

subsystems. Consequently, throughout the development of the OPTIA tool, the research team relied upon relevant theory and research.

The development of the OPTIA tool and the approach pursued in this effort was built on prior research. In particular, the research team's initial efforts with regard to the analysis required for organizational behavior profiles was based on a cognitive task analysis (Smith, Sieck, Weaver, & Sticha, 2009). Moreover, other earlier work by analysts contributed to the methodology incorporated in the tool (e.g., Heuer, 1999; Kuznar, 2009; Moon, 2010; Zacharias, MacMillan, & Van Hemel, 2008). Throughout this document, supporting literature that was used in developing the conceptual approach and the OPTIA tool is referenced. In addition, literature that places behavioral influences analysis in the context of the larger global war on terror was considered. Examples of this include organizational behavior profiles analysis for terrorist organizations (e.g., Jackson, 2006; Sageman, 2011) and those organizations that support terrorist efforts (Shapiro, 2007).

As noted earlier, although it was a tool developed to support analyses performed by the intelligence community, OPTIA can be used by and applied to a wide range of organizations. OPTIA provides a structured, yet flexible approach to eliciting analyses for organizational behavior profiles by trained analysts. Analysts can traverse the various questions regarding the organizations' characteristics, configuration, and subsystems in whichever way is convenient and possible with the evidence they have available. Moreover, because the tool was instantiated in a COTS spreadsheet program, skilled individuals can modify the structure, questions, and output if the situation or analysts' needs require. For example, both questions and response sets can be rephrased or added to OPTIA if those currently included are found to be inadequate for comprehensive and high quality analysis products. It could easily be reconfigured to facilitate and focus upon the vulnerability component addressed during the recent workshop. Although OPTIA and the related approach were developed to provide general and broad approaches to behavioral influences analysis, the tool is quite flexible and can be configured for the specific needs of the analysts who will utilize OPTIA.

6.2 Lessons Learned

As mentioned above, the research team initially focused on finding a way to "type" organizations so that similar inferences could be drawn from similar organizations. This turned out to be somewhat of a false start. In conversations with analysts, we learned that they saw relatively little value in this, and were far more interested in understanding how organizations are structured and how they operate and function. Also, given the emphasis on computational modeling and the desire to draw complex conclusions from the available information, we initially envisioned a solution that focused on probabilistic inference and the elegant formal models that could be applied based on these inferences. However, we soon learned that this probabilistic inference approach requires analysts to answer types of questions that were inconsistent with the ways in which their analyses were conducted. As a result, we reverted to discussions with analysts to determine how they wanted to conduct analyses, and to identify the theoretically-based approaches that they felt would help them to develop optimal products.

The conceptual approach taken in the development of OPTIA had a number of facets as reflected in the "multi-layered" perspective outlined in **Section 0** and in the functional design of OPTIA. As described above, our approach incorporates both a *systems* perspective and a *configurations* perspective. We learned that an endeavor such as this needs to be open to a variety of approaches

to be able to determine which one(s) would best suit the problems defined by the users. Clearly, this was the approach we followed and why the systems and configuration approaches figured so heavily in the OPTIA tool that was produced. Moreover, once we saw the types of responses that OPTIA would elicit from analysts, we also realized that it was possible to provide methods of integrating those responses in formats so that they would be more useful to analysts and their supervisors. As a consequence, we provide the Subsystem Functioning and Summary Graphics tabs in OPTIA. Additionally, we were encouraged to develop a protocol so that the responses and rationales incorporated into OPTIA by an analyst could be exported to a document that could be printed for review and other uses. In all of these cases, we learned that the responses that analysts enter into OPTIA are data that could be integrated and represented in ways so that analysts could get a clearer or graphical representation of some of the inferences possible, based on the organizational behavior profile the analysts conducted. In this fashion, the effort continued to focus on the needs of the analysts when they were not initially apparent prior to the introduction of OPTIA.

6.3 The Way Ahead

Results from the Organizational Vulnerability workshop strongly suggested that the next logical step in addressing the needs of behavioral influence analysts would be to develop a tool that aids in the assessment of organizational vulnerabilities. Such a tool would then directly facilitate development and evaluation of influence targeting alternatives.

Providing this capability may well involve development of a new tool; however, many aspects of such a tool are already resident at some level in OPTIA. For example, OPTIA leads the analyst to examine the strengths and weaknesses of various subsystems that make up the organization (the *Performance Vulnerability* component of the notional organizational vulnerability framework described in **Figure 19**.) It also focuses on where decisions are made in the organization and the degree of decentralization of decision making authority. Further, it leads the analyst to consider the *type* of organizational decisions (i.e., goal setting, planning, or execution) that occurs in various subsystems of the organization. This aspect begins to address the *Accessibility of Decision Processes* component of the framework. Finally, in the External Relations subsystem tab, OPTIA touches on the *External Influences* component of the framework, leading the analyst to identify the extent to which external entities are able to assert some level of influence on the organization. To fully address organizational vulnerability in OPTIA, developers would need to incorporate specific topics, questions, and algorithms that would more directly identify vulnerabilities and spotlight potentially viable avenues of influence.

However, the underlying foundation for a general vulnerability assessment is already present.

In addition, a tool that addresses vulnerability in the context of potential influence targets must provide analysts and targeteers with a science-based arsenal of potential influence tactics that exploit basic human nature. Much like OPTIA summarizes related research literature pertaining to organizational configuration and components, a tool that facilitates the influence targeting process should summarize key research findings with regard to proven influence tactics and the conditions (context) in which they are thought to be most effective. In this manner, it would serve as a playbook for targeteers, outlining a variety of influence tactics that can be executed under the appropriate conditions. This would offer tremendous potential for improving the application of influence tactics for desired outcomes. In addition, it would clarify the processes by which the influence tactic operates so that forecasts of likely outcomes of its application may

be more available and precise. Given our understanding of the ways in which behavioral influences targeting is currently performed in intelligence operations, such a resource for analysts would provide generous returns on investment.

Finally, the tool should have some way of capturing and conveying cultural aspects that might moderate the effectiveness of influence tactics in the given targeted population. Culture is a vital component of context and it should never be ignored in the analysis or target development processes. If an understanding of relevant cultural aspects can be developed and made accessible in the form of a reference tool, analysts and targeteers could take a comprehensive look at vulnerabilities and influence tactics, and ultimately, make better influence targeting decisions. This cultural analysis should specifically identify and describe those attributes of the culture that might impact the effectiveness of the identified influence tactics (i.e., cultural aspects that might increase or decrease the feasibility, appropriateness, and/or effectiveness of each tactic.)

In the development of OPTIA, we have continuously solicited input from members of the BIA flight at the NASIC. We have sought their feedback about the usability and functionality of OPTIA, as well as ideas for future enhancements. Going forward, we would like to gain additional feedback from the BIA flight as well as other analysts who might adopt this tool. We hope and expect that OPTIA will be implemented in other intelligence arenas and we will pursue opportunities to conduct usability and functionality evaluations among others who adopt it. The most fruitful evaluations will be in the form of formal assessments from individuals who have a history of conducting organizational behavior profiles. However, another approach would be to introduce OPTIA to those who are just beginning to obtain training in organizational behavior profile analyses. For these newer organizational analysts, it could be part of the training protocol so that the analysts would have a better concept of the features of an organization that require attention. Moreover, employing the tool among the analyst trainees may decrease the time required for the trainees to achieve acceptable levels of performance in providing organizational behavior profiles and in other analysis products. OPTIA also provides a means of introducing more conceptually grounded methodologies for use in analysis that appear to be emerging. If we are unable to get formal evaluation from analysts who adopt the tool for organizational analysis, we would like to obtain the more informal evaluations that often help us understand how OPTIA can be made into a more useful tool for the analysts who apply it in their organizational behavior profile analyses.

7.0 CONCLUSION

We are proud to have had the opportunity to contribute to the important work of the NASIC's BIA flight, particularly with regard to organizational behavior profiles. These profiles are critical to Air Force objectives of anticipating the actions and decisions of "familiar" organizations. To aid analysts in developing the most comprehensive and useful reports, the OPTIA tool developed under this effort incorporates decades of organization science research and leading theories of organizational behavior. It reflects a multi-layered approach to organizational operations and functioning, and was guided by continual input and feedback by the analyst users. This feedback ensured that the tool supports practical application of leading theories, documentation of assessment rationale and confidence ratings, and links to both evidence and related research material.

Although OPTIA was developed with the NASIC BIA flight's mission in mind, the techniques and processes incorporated into OPTIA are potentially applicable to the larger intelligence community. OPTIA helps an analyst examine an organization from a number of different perspectives (i.e., characteristics, configuration, and numerous subsystems), and in doing so, develop an idea of where the organization might be vulnerable to influence.

Going forward, the next logical step in providing theoretically-based organizational analysis and influence tools for practical application is to develop an organizational vulnerability assessment tool. Implemented either as an enhancement to OPTIA or as a stand-alone tool, it could greatly aid analysts in the vulnerability assessment process and the identification of influence tactics that can best exploit the identified vulnerabilities. This tool could draw upon the framework resulting from the Organizational Vulnerability workshop, and it could help analysts take a comprehensive look at vulnerabilities from the perspective of targeteers looking for avenues of influence. Pursuing this capability would be an extremely worthwhile endeavor, providing a much needed resource for influence analysts and targeteers.

8.0 REFERENCES

Daft, R.L. (2010). *Organization Theory and Design* (10th ed.), Mason, OH: South-Western Cengage Learning.

Duncan, R.B., "Characteristics of Perceived Environments and Perceived Environmental Uncertainty," *Administrative Science Quarterly*, 17, 1972, 313-327

Emery, F.E., & Trist, E.L, Towards a Social Ecology, Plenum Press, New York, 1973

Galbraith, J.R., "Organizational Design: An Information Processing View," *Interfaces*, 4, 1974, 28-36

Heuer, R.J. (1999). *The Psychology Of Intelligence Analysis*. Central Intelligence Agency: Center for the Study of Intelligence.

Hinsz, V.B. (1995). Mental Models of Groups as Social Systems: Considerations of Specification and Assessment. *Small Group Research*, 26, 200-233.

Hinsz, V.B., & Doyal, J.A. (2013). *How Influence Tactics can be Applied to Achieve Targeted Outcomes: An Influence Tactics Sourcebook (ITSbook)*. A Ball Aerospace & Technologies Unpublished concept paper. Fairborn, OH.

Hinsz, V.B., & Doyal, J.A. (2010), "Warfighter Interface Research & Technology Operations (WIRTO): Task Order 30 (TO30) Decision Vulnerability Analysis (DVA) Program". Interim Report for contract FA8650-08-D-6801/0030, WPAFB, OH.

Hinsz, V.B., & Sutton, J.L. (in press). Comprehending Organizational Functioning from a Systems Approach. *International Journal of Economic Behavior and Organization*.

Jackson, B.A. (2006). Organizational Decisionmaking by Terrorist Groups. In P. K. Davis & K. Cragin (Eds.), *Social Science for Counterterrorism: Putting the Pieces Together* (pp. 209-255). Santa Monica, CA: RAND Corp.

Jannarone, Greg, "Behavioral Influences Analysis: Mission and Methodology Overview", URL: http://www.au.af.mil/bia/slides/bia_msn_bfg.pdf, Date accessed: April 5, 2012.

Katz, D., & Kahn, R.L., *The Social Psychology of Organizations* (2nd ed.), John Wiley & Sons, New York, 1978

Kuznar, L.A., "Anthropological Reflections on Motivate and Intent & the SMA typology," in L. Kuznar, A. Astorino-Coutois, & S. Canna (Eds.), *Strategic Multi-Layer Assessment (SMA) From the Mind to the Feet: Assessing the Perception-to-Intent-to-Action Dynamic*, 2009

Lawrence, P., & Lorsch, J.W., *Organization and Environment*, Harvard Business School Division of Research, Boston, MA, 1967

Lawson, R.B., Anderson, E.D., & Rudiger, L.P. (2013). *Psychology and Systems at Work*. Boston, MA: Pearson.

Lewin, K. (1943). Psychology and the Process of Group Living. *Journal of Social Psychology*, 17, 113-131.

Lorsch, J.W., "Organizational Design: A Situational Perspective," *Organizational Dynamics*, 6, 1977, 2-14

MacGregor, D., *The Human Side of Enterprise*, McGraw-Hill, New York, 1960

Marx, K., *Das Kapital: A Critique of Political Economy*, Regnery Gateway, Washington, D.C. 1996

Miner, J.B., *Organizational Behavior 2: Essential Theories of Process and Structure*, M.E. Sharpe, Armonk, NY, 2006

Mintzberg, H., *The Structuring of Organizations*, Prentice-Hall, Englewood Cliffs, NJ, 1979

Mintzberg, H., *Structure in Fives: Designing Effective Organizations*, Prentice-Hall, Englewood Cliffs, NJ, 1983

Mintzberg, H., *Power in and around Organizations*, Prentice-Hall, Englewood Cliffs, NJ, 1983

Mintzberg, H., *Mintzberg on Management*, Free Press, New York, 1989

Moon, H., *Behavioral influences analysis: An overview*, Unclassified Briefing of National Air and Space Intelligence Center, Dayton, OH, May 2010

Pasmore, W.A., *Designing Effective Organizations: The Sociotechnical Systems Perspective*, Wiley, New York, 1988

Perrow, C., "A Framework for the Comparative Analysis of Organizations," *American Sociological Review*, 32, 1967, 194-208

Robbins, S.P., "Organization design," In *Essentials of Organizational Behavior* (4th ed.), Prentice-Hall, Upper Saddle River, NJ, 1994

Roethlisberger, F.J., & Dickson, W. J., *Management and the Worker*, Harvard University Press, Cambridge, MA, 1939

Sageman, M. (2011). AQAP External Operations. In A. Chapman & J. Adelman (Eds.), *Violent Extremist Organizations Pilot Effort: Focus on Al Qaeda in the Arabian Peninsula (AQAP)* (pp. 228-246). Strategic Multi-Layer Assessment (SMA) Office, Department of Defense, Office of the Secretary of Defense (OSD).

Shapiro, J. N. (2007). Terrorist Organizations' Vulnerabilities and inefficiencies: A Rational Choice Perspective. In J.K. Giraldo & H.A. Trinkunas (Eds.), *Terrorism Financing and State Responses* (pp. 56-71). Stanford, CA: Stanford University Press.

Smith, J.L., Sieck, W.R., Weaver, E.A., & Sticha, P.J., Cognitive Challenges in Behavioral Influences Analysis and Recommendations for the Development of Decision Vulnerability Model, Final Technical Report for FA8650-04-D-6405 and SRA Subcontract S2617AI001. Dayton, OH: Applied Research Associates, 2009

Taylor, F.W., *The Principles of Scientific Management*, Harper Bros, New York, 1911

Thompson, J.D., *Organizations in Action*, McGraw-Hill, New York, 1967

Usdiken, B., & Leblibici, H. "Organization Theory," In N. Anderson, D. S. Ones, H. K. Sinangil, & C. Viswesvaran, C. (Eds.), *Handbook of Industrial, Work, and Organizational Psychology* (Vol. 2: *Organizational psychology*, pp. 377-397), Sage, Thousand Oaks, CA, 2002

Wagner, J.A., & Hollenbeck, J.R. *Organizational Behavior*, Routledge, New York, 2010

Weber, M., Economy and Society, Bedminster Press, New York, 1968

Woodward, J., Industrial organization: Theory and Practice, Oxford University Press, London, 1965

Zacharias, G. L., MacMillan, J., & Van Hemel, S. B. Editors. *Behavioral Modeling and Simulation: From Individuals to Societies*, National Academies Press, Washington, D.C., 2008

9.0 LIST OF ACRONYMS

This acronym list contains both general acronyms and program-specific acronyms.

| Acronym | Definition |
|----------------|---|
| 711 HPW/RH | 711 th Human Performance Wing, Human Effectiveness Directorate |
| 711 HPW/RHXM | 711th Human Performance Wing, Human Effectiveness Directorate, Human Centered ISR Division, Human Analyst Augmentation Branch |
| AFRL | Air Force Research Laboratory |
| AFTC | Air Force Targeting Center |
| BIA | Behavioral Influences Analysis |
| COTS | Commercial-Off-The-Shelf |
| DVA | Decision Vulnerability Analysis |
| I/O | Industrial and Organizational (as subfields of psychology) |
| NASIC | National Air and Space Intelligence Center |
| OPTIA | Organizational Profiling Tool for Influences Analysis |
| USAF | United States Air Force |
| VBA | Visual Basic for Applications |

APPENDIX 1 - OPTIA Question Sets

This appendix lists all 196 questions posed to analysts by OPTIA v1.0, organized by topic.

1.0 Organizational Description Questions

| Organizational Description |
|--|
| 1. What is the name of the organization? Include formal name and any common nicknames, abbreviations, etc. |
| 2. Describe the scope or boundaries of the organization (i.e., specifically--which members/groups are included in the analysis and which are not) |
| 3. In approximately what year was the organization founded? |
| 4. Approximately how many members make up the organization of interest? |
| 5. Approximately how many members of the organization perform the basic work related to an organization's product or service? |
| 6. Approximately how many members of the organization are managers who transfer (information) between higher and lower levels of the organizational hierarchy? |
| 7. Approximately how many members of the organization are top-level executives responsible for running the organization? |
| 8. Approximately how many members of the organization are specialists/technicians responsible for standardizing various aspects of the organization's activities? |
| 9. Approximately how many members of the organization are individuals who provide indirect support services to the organization? |
| 10. Approximately how many members of the organization are not included in the previous five categories/questions? |
| 11. Where is the organization headquartered? Is the work (provision of goods and/or services) performed in a single location or distributed across multiple locations? What are these locations? |
| 12. What is the primary purpose of the organization? What is its "mission"? |
| 13. What are the "products" or goods or services that the organization produces? |
| 14. Who are the "clients/customers/consumers" for the products/goods/services the organization produces? |
| 15. With what other organizations does this organization cooperate/coordinate to meet common objectives? |
| 16. From what other organizations does this organization face opposition or competition? |

2.0 Organizational Characteristics Questions

Organizational Characteristics

1. How predictable (stable) is the environment in which the organization operates? (i.e., how predictable is the operating environment with regard to its impact on the organization's functioning?)
2. How complex is the organization's operating environment? (i.e., to what extent does it require the organization to have sophisticated knowledge about products, technologies, customers, enemies, etc?)
3. How diverse is the "market" that the organization serves? (i.e., to what degree does the organization provide diverse services, serve diverse groups, or work in diverse locations?)
4. How hostile is the organization's operating environment? (Hostility can come from enemies, competitors, relations with unions, government regulation, etc.)
5. To what degree is the organization controlled - directly or indirectly - by an external organization? (e.g., a board of directors, a higher-level government agency, an exclusive supplier)
6. To what degree does the organization wield power/influence over other organizations or populations?
7. To what degree are the organization's operations, markets, and personnel dispersed or centralized?
8. How sophisticated is the technology that is used by the organization to produce its goods and services?
9. How sophisticated is the technology that is used in the organization's non-production/services activities? (e.g., management, communications, accounting, logistics)
10. To what degree do the operators' instruments control or regulate the work they do (e.g., operator provides a specimen and an instrument provides a report, or an operator enters data but a tool conducts analysis and interprets results for a report)?
11. To what degree is the organization homogeneous with regard to member culture?
12. To what degree is there conflict or fissures between individuals/factions in the organization?
13. How stable is the structure and staffing of the organization?
14. Within the class of similar organizations, what degree of status is this organization perceived to have?

15. Is the status of this organization relative to its peers perceived to be on the rise or decline?

3.0 Organizational Configuration Questions

| Organizational Configuration |
|---|
| 1. Where in the organization does the power for decision making reside? |
| 2. Select the highest level of coordination the organization typically uses to coordinate its activities. (1 is the lowest, 5 is the highest) |
| 3. The organization is characterized as being informally structured, with a single powerful individual who is in charge of everything--(i.e., tends to be autocratic in nature) |
| 4. The organization is characterized by work that is highly specialized and formalized. Decision making is concentrated at the top with clear lines of authority, and the work environment is highly complex and not prone to change. |
| 5. The organization is characterized by numerous rules to follow, but employees are highly skilled and free to make decisions on their own. Decision making is vested in the professionals who provide the key goods and/or services of the organization. |
| 6. The organization has separate autonomous units to deal with different products, services, or geographic regions, freeing top management to focus on large-scale strategic decisions. |
| 7. The organization operates in a highly informal, ad hoc fashion in which specialists work in flexible teams, coordinating with each other on various projects or missions. It is marked by decentralized authority. |
| 8. The organization is characterized by beliefs, norms, and culture that dominate the actions and activities of members of the organization. These beliefs become the authority and all are subject to the influence of this ideological culture. |
| 9. The organization is characterized by conflict; there are few unifying forces and authority is decentralized. |
| 10. To what extent does the command and authority to make things happen in the organization reside among the top-level executives? |
| 11. To what extent does the command and authority to make things happen in the organization reside with middle-level managers who exist between higher and lower levels of the organizational hierarchy? |
| 12. To what extent does the command and authority to make things happen in the organization reside with specialists/technicians/analysts responsible for standardizing various aspects of an organization's activities? |
| 13. To what extent does the command and authority to make things happen in the organization |

reside with individuals who provide indirect support services to the organization?

14. To what extent does the command and authority to make things happen in the organization reside with individuals who perform the basic work related to the production of the organization's goods or services?

15. To what extent does the command and authority to make things happen in the organization reside in the organization's culture and ideology?

4.0 Organizational Subsystems

Administrative Control

1. How tight versus loose is the administrative control system?
2. To what degree is the administrative control system imposed (autocratic) on organizational members or are the members involved (democratic) in the administrative control system?
3. How much responsibility is the administrative control system afforded for applying and enforcing "rules"?
4. How narrowly or broadly are administrative controls applied throughout the organization?
5. How deep or superficial is the administrative control system's responsibility for rule application in the organization?
6. To what degree does the administrative control system interfere with important activities?

Command & Authority

1. To what extent does the command and authority to make things happen in the organization reside among the top-level executives?
2. To what degree do those in command and authority attempt to influence external individuals and groups that have impact on the organization?
3. To what degree does the command and authority in the organization follow from "personal control" (i.e., giving direct orders, allocating resources, giving guidelines and constraints for decisions, being able to review or repeal other's decisions)?
4. To what degree does the command and authority in the organization follow from "bureaucratic control" (which guides behavior of subordinates in general-- such as behavior formalization, standardization of work and outputs)?
5. To what degree do subordinates in the organization comply with requests from authority because they respect the competence and judgment of the authority figure(s)?
6. To what degree do subordinates in the organization comply with the requests from authority because of the benefits and rewards as well as the penalties and the sanctions the authority figure(s) can mete out?
7. To what degree do subordinates in the organizations comply with requests from authority because of the authority figure(s) personality, pleasantness, charisma, or a desire to emulate or

| |
|---|
| identify with the authority? |
| 8. To what degree do subordinates in the organization comply with requests from authority because they perceive the authority as legitimate and it is their responsibility to comply? |
| External Relations |
| 1. To what extent does the command and authority to make things happen in the organization reside with individuals or groups external to the organization (e.g., government, unions, regulators, board of directors)? |
| 2. To what extent is the organization dependent upon Associates (suppliers, clients, partners, or competitors)? |
| 3. To what extent is the organization dependent upon Employee, Professional, or other Associations? |
| 4. To what extent is the organization dependent upon Publics (public interests (e.g., media), governments, special interests outside of government)? |
| 5. To what extent is the organization critical to the goals of its Owners? |
| 6. To what extent is the organization critical to the goals of Associates (suppliers, clients, partners, or competitors)? |
| 7. To what extent is the organization critical to the goals of Employee, Professional, or other Associations? |
| 8. To what extent is the organization critical to the goals of Publics (public interests (e.g., media), governments, special interests outside government)? |
| Financial / Budgeting |
| 1. How risk tolerant versus risk averse is the financial/investment orientation of the organization? |
| 2. How stable versus unstable is the financial position of the organization (e.g., income, financing, expenditures)? |
| 3. How accountable versus unaccountable (e.g., corruptible) is the financial system used by the organization? |
| 4. How adequate is the organization's rate of return to its "investors"? |
| 5. How vulnerable is the organization to external financial and economic changes (given its cash flow, reserves, or financing)? |
| 6. How vulnerable is the budgeting processes to faulty estimates, mis-information, and inadequate understanding of the organization's finances? |
| Indoctrination / Socialization |
| 1. How easy or difficult is it for members to conform to the values, attitudes, and culture of the organization? |
| 2. How willing are new recruits to conform to the organization's values and behaviors that are |

| |
|--|
| considered necessary for the organization's survival |
| 3. How effective is the organization's socialization/indoctrination process in leading new members to learn the desired attitudes, values, and behaviors they need to fulfill their new roles? |
| 4. How effective is the organization's socialization/indoctrination process in leading new members to adjust to the new organization as well as the workgroup and its norms and values? |
| 5. How much does the organization emphasize socialization/indoctrination of new members and dedicate resources towards socialization/indoctrination? |
| 6. To what degree do potential recruits and the organization provide honest information about each other (rather than raise false expectations) during the socialization process? |
| Information Systems |
| 1. To what degree does the information system provide accurate information? |
| 2. To what degree does the information system provide timely information? |
| 3. To what degree does the information system provide relevant information? |
| 4. To what degree does the information system make information accessible to members who need it? |
| 5. To what degree does the information system protect sensitive information from being shared outside the organization? |
| 6. To what extent is available information utilized in organizational decision making? |
| Intelligence |
| 1. How reliable is the information and analysis provided by the organization's intelligence system (actual reliability, not perceived)? |
| 2. How complete is the information and analysis provided by the organization's intelligence system? |
| 3. How well disseminated is the information and analysis provided by the organization's intelligence system to people in the organization who need it? |
| 4. How timely is the information and analysis provided by the organization's intelligence system (ahead of time, on time, too late)? |
| 5. How well does the organization utilize the information and analysis provided by the intelligence system? |
| 6. How often does the organization engage in intelligence activities EXTERNAL to the organization (to uncover potential problems and opportunities)? |
| 7. How often does the organization engage in intelligence activities INTERNAL to the organization (to uncover potential problems and opportunities)? |
| Knowledge / Skills / Abilities |
| 1. How effective is the organization at attracting an adequate pool of appropriately talented |

| |
|--|
| individuals to fill all the positions in the organization? |
| 2. How effective is the organization in making smart selection decisions so that it gets the right people into the organization while also not including the wrong people? |
| 3. How effective is the organization in assessing the talent of potential recruits (i.e., their knowledge, skills, abilities, attitudes, values) so that the talent can be effectively applied for the organization's needs? |
| 4. How effective is the organization in assigning and placing new recruits into appropriate functions and positions in the organization? |
| 5. How effective is the organization in training new members so that they have the capability to perform the appropriate and required behaviors as well as hold valued attitudes? |
| 6. How effective is the organization at planning for its personnel needs (knowing and forecasting its needs for knowledge, skills, and abilities currently and in the future)? |
| 7. How effective is the organization in developing and maintaining the knowledge, skills, and abilities of its members for continued, expanding, or changing roles in the organization? |
| 8. How effective is the organization in dealing with voluntary or involuntary separations from the organization (i.e., quitting, layoffs, downsizing, firings, retirement, etc.)? |
| Material Acquisition |
| 1. How reliable are suppliers in fulfilling the organization's needs in terms of appropriate quality, at the right time, and in sufficient amounts? |
| 2. How capable is the organization to negotiate better price (costs), quality, timely delivery, and service from suppliers (i.e., strength or weakness in negotiations with suppliers)? |
| 3. How easily can the flow, acquisition, quality, or quantity of supplies be disrupted? |
| 4. How adequate is the organization's knowledge about its procurement processes (so that it can plan and estimate for its projects)? |
| 5. How satisfied is the organization with its suppliers in the acquisition of material? |
| Planning & Development |
| 1. How adequate is the organization's knowledge of its own processes and systems – the antecedents, processes, and consequences from the processes and systems? |
| 2. How often are the planning and development processes of the organization driven from top-down (from top management) efforts or from bottom-up activities? |
| 3. How likely is the planning and development of the organization to be accepted and implemented by members of the organization (versus disregarded, derailed, overtly or covertly opposed, or ignored)? |
| 4. How capable are the organization's planning and development processes to adapt and adjust to changes in the organization's EXTERNAL environment? |
| 5. How capable are the organization's planning and development processes to adapt and adjust |

| |
|---|
| to changes in the organization's INTERNAL environment? |
| 6. How well is the organization doing against its 'competition' in its market (segment; industrial sector)? |
| Production / Transformation |
| 1. How reliable is the organization's production in terms of producing product(s) of appropriate quality, at the right time, and in sufficient amounts? |
| 2. How vulnerable are the production facilities to external threats (e.g., blackouts, flooding, riots, heat, cold)? |
| 3. How vulnerable are the production facilities to internal threats (e.g., work stoppages, insufficient demand, untrainable workforce)? |
| 4. How vulnerable are the production facilities to economic changes (e.g., extremely vulnerable such as dependent on fuel costs, or quite invulnerable such as demand for essential foods)? |
| 5. How easy or difficult is it (in terms of time, effort) to change the nature, type, and pace of production? |
| 6. How adequate are the organization's facilities used for production? |
| 7. How efficient is the organization's production operation? |
| Reward / Motivation |
| 1. How fairly do organizational members believe that the material rewards they receive from the organization are distributed? |
| 2. To what degree does the organization reward the members' efforts that are directed at helping other organizational members in their work or that contribute to the long term effectiveness of the organization (in contrast to rewards directed solely at what the organization produces)? |
| 3. Do the members of the organization perceive the procedures used for rewarding them are fair? |
| 4. Are punishments and sanctions meted out in the organization conducted in such a fashion that they are likely to produce respect or antagonism on the part of its members? |
| 5. To what degree are the rewards provided aligned with the truly desired behaviors, or do the rewards reinforce behaviors that are mis-aligned with organizational goals and objectives? |
| 6. To what extent are organizational members motivated to pursue the organization's goals and objectives? |
| 7. What is the overall morale of the members of the organization? |
| Support / Maintenance |
| 1. How favorable are the social relations, interpersonal interdependencies, and coordination activities among members of the organization? |
| 2. How much are the maintenance and support functions of the organization rewarded? |

| |
|--|
| 3. How well maintained are the facilities and equipment the organization uses for getting things done? |
| 4. How well maintained are the technologies and processes the organization uses to get things done? |
| 5. How well funded are the organization's support and maintenance functions? |

5.0 Subsystem Functioning

| Administrative Control |
|--|
| 1. To what degree is the Administrative Control subsystem influential in determining organizational goals and objectives (i.e., goal setting)? |
| 2. To what degree is the Administrative Control subsystem influential in determining how to achieve goals and objectives (i.e., planning)? |
| 3. To what degree is the Administrative Control subsystem influential in achieving an organizational goal or objective (i.e., execution)? |
| 4. To what degree is the Administrative Control subsystem effective in performing its function? |
| 5. To what degree might the Administrative Control subsystem be vulnerable to external influence? |
| Command & Authority |
| 1. To what degree is the Command & Authority subsystem influential in determining organizational goals and objectives (i.e., goal setting)? |
| 2. To what degree is the Command & Authority subsystem influential in determining how to achieve goals and objectives (i.e., planning)? |
| 3. To what degree is the Command & Authority subsystem influential in achieving an organizational goal or objective (i.e., execution)? |
| 4. To what degree is the Command & Authority subsystem effective in performing its function? |
| 5. To what degree might the Command & Authority subsystem be vulnerable to external influence? |
| External Relations |
| 1. To what degree is the External Relations subsystem influential in determining organizational goals and objectives (i.e., goal setting)? |
| 2. To what degree is the External Relations subsystem influential in determining how to achieve goals and objectives (i.e., planning)? |
| 3. To what degree is the External Relations subsystem influential in achieving an |

| |
|--|
| organizational goal or objective (i.e., execution)? |
| 4. To what degree is the External Relations subsystem effective in performing its function? |
| 5. To what degree might the External Relations subsystem be vulnerable to external influence? |
| Financial / Budgeting |
| 1. To what degree is the Financial & Budgeting subsystem influential in determining organizational goals and objectives (i.e., goal setting)? |
| 2. To what degree is the Financial & Budgeting subsystem influential in determining how to achieve goals and objectives (i.e., planning)? |
| 3. To what degree is the Financial & Budgeting subsystem influential in achieving an organizational goal or objective (i.e., execution)? |
| 4. To what degree is the Financial & Budgeting subsystem effective in performing its function? |
| 5. To what degree might the Financial & Budgeting subsystem be vulnerable to external influence? |
| Indoctrination / Socialization |
| 1. To what degree is the Indoctrination & Socialization subsystem influential in determining organizational goals and objectives (i.e., goal setting)? |
| 2. To what degree is the Indoctrination & Socialization subsystem influential in determining how to achieve goals and objectives (i.e., planning)? |
| 3. To what degree is the Indoctrination & Socialization subsystem influential in achieving an organizational goal or objective (i.e., execution)? |
| 4. To what degree is the Indoctrination & Socialization subsystem effective in performing its function? |
| 5. To what degree might the Indoctrination & Socialization subsystem be vulnerable to external influence? |
| Information Systems |
| 1. To what degree is the Information Systems subsystem influential in determining organizational goals and objectives (i.e., goal setting)? |
| 2. To what degree is the Information Systems subsystem influential in determining how to achieve goals and objectives (i.e., planning)? |
| 3. To what degree is the Information Systems subsystem influential in achieving an organizational goal or objective (i.e., execution)? |
| 4. To what degree is the Information Systems subsystem effective in performing its function? |
| 5. To what degree might the Information Systems subsystem be vulnerable to external |

| |
|--|
| influence? |
| Intelligence |
| 1. To what degree is the Intelligence subsystem influential in determining organizational goals and objectives (i.e., goal setting)? |
| 2. To what degree is the Intelligence subsystem influential in determining how to achieve goals and objectives (i.e., planning)? |
| 3. To what degree is the Intelligence subsystem influential in achieving an organizational goal or objective (i.e., execution)? |
| 4. To what degree is the Intelligence subsystem effective in performing its function? |
| 5. To what degree might the Intelligence subsystem be vulnerable to external influence? |
| Knowledge / Skills / Abilities |
| 1. To what degree is the Knowledge/Skills/Abilities subsystem influential in determining organizational goals and objectives (i.e., goal setting)? |
| 2. To what degree is the Knowledge/Skills/Abilities subsystem influential in determining how to achieve goals and objectives (i.e., planning)? |
| 3. To what degree is the Knowledge/Skills/Abilities subsystem influential in achieving an organizational goal or objective (i.e., execution)? |
| 4. To what degree is the Knowledge/Skills/Abilities subsystem effective in performing its function? |
| 5. To what degree might the Knowledge/Skills/Abilities subsystem be vulnerable to external influence? |
| Material Acquisition |
| 1. To what degree is the Material Acquisition subsystem influential in determining organizational goals and objectives (i.e., goal setting)? |
| 2. To what degree is the Material Acquisition subsystem influential in determining how to achieve goals and objectives (i.e., planning)? |
| 3. To what degree is the Material Acquisition subsystem influential in achieving an organizational goal or objective (i.e., execution)? |
| 4. To what degree is the Material Acquisition subsystem effective in performing its function? |
| 5. To what degree might the Material Acquisition subsystem be vulnerable to external influence? |
| Planning & Development |
| 1. To what degree is the Planning & Development subsystem influential in determining organizational goals and objectives (i.e., goal setting)? |

| |
|---|
| 2. To what degree is the Planning & Development subsystem influential in determining how to achieve goals and objectives (i.e., planning)? |
| 3. To what degree is the Planning & Development subsystem influential in achieving an organizational goal or objective (i.e., execution)? |
| 4. To what degree is the Planning & Development subsystem effective in performing its function? |
| 5. To what degree might the Planning & Development subsystem be vulnerable to external influence? |
| Production / Transformation |
| 1. To what degree is the Production/Transformation subsystem influential in determining organizational goals and objectives (i.e., goal setting)? |
| 2. To what degree is the Production/Transformation subsystem influential in determining how to achieve goals and objectives (i.e., planning)? |
| 3. To what degree is the Production/Transformation subsystem influential in achieving an organizational goal or objective (i.e., execution)? |
| 4. To what degree is the Production/Transformation subsystem effective in performing its function? |
| 5. To what degree might the Production/Transformation subsystem be vulnerable to external influence? |
| Reward / Motivation |
| 1. To what degree is the Reward & Motivation subsystem influential in determining organizational goals and objectives (i.e., goal setting)? |
| 2. To what degree is the Reward & Motivation subsystem influential in determining how to achieve goals and objectives (i.e., planning)? |
| 3. To what degree is the Reward & Motivation subsystem influential in achieving an organizational goal or objective (i.e., execution)? |
| 4. To what degree is the Reward & Motivation subsystem effective in performing its function? |
| 5. To what degree might the Reward & Motivation subsystem be vulnerable to external influence? |
| Support / Maintenance |
| 1. To what degree is the Support & Maintenance subsystem influential in determining organizational goals and objectives (i.e., goal setting)? |
| 2. To what degree is the Support & Maintenance subsystem influential in determining how to achieve goals and objectives (i.e., planning)? |
| 3. To what degree is the Support & Maintenance subsystem influential in achieving an |

organizational goal or objective (i.e., execution)?

4. To what degree is the Support & Maintenance subsystem effective in performing its function?

5. To what degree might the Support & Maintenance subsystem be vulnerable to external influence?

APPENDIX B - Relevant Research Literature Summaries Pertaining to OPTIA Questions

This appendix provides a more detailed description of the content in OPTIA v1.0. It provides a brief overview of the tool and then lists all of the topics and questions for which related research summaries were developed. The 110 summaries themselves are also presented.

Introduction

The OPTIA tool is a Microsoft Excel workbook designed to aid behavioral influences analysts as they prepare organizational behavior profiles. The focus of the tool is on organizations; it does not focus on the behavior of specific individuals or groups. It is intended to be useful for the wide variety of organizations that behavioral influences analysts investigate (i.e., not just military organizations).

The primary component of OPTIA is a collection of question sets that help the analyst come to understand how an organization can be characterized as well as how the organization operates and functions. These questions sets are derived from various theories and approaches identified in the organizational sciences literature, and they are intended to help the analyst view the organization from numerous perspectives.

The OPTIA prototype is tailored to the specific needs of analysts at the National Air and Space Intelligence Center's Behavioral Influences Analysis Flight (NASIC/SMRB). NASIC analysts requested a tool that would aid them in developing comprehensive, evidence based organizational behavior profiles developed with insights from the organizational sciences literature. OPTIA directly addresses this need, providing a methodology that leads analysts to think critically about the characteristics and activities of organizations – factors which ultimately influence how an organization acts – and providing a means for analysts to develop a comprehensive understanding of an organization based upon the available evidence by linking the relevant evidence to particular questions about the organization. Grounded in the existing organizational science literature, OPTIA guides analysts in a common, objective approach to organizations that can be shared among analyst teams.

Throughout the OPTIA workbook, links to relevant organizational science literature are provided in association with questions asked of the analyst. Each link takes the analyst to a 1-2 page summary that gives background information regarding the particular question and why it is relevant to understanding the organization. In addition, the write-ups suggest a few additional literature sources the analysts might turn to for a more detailed discussion on the topic.

This document presents all of the questions posed across the various tabs in the OPTIA workbook and also the *Relevant Research Literature* summaries associated with the question. It is intended to provide analysts with a reference to the questions and summaries without the need to navigate through the workbook itself. In addition, the Appendix provides a quick reference listing just the OPTIA question sets.

1. Organizational Description: Questions

1. What is the name of the organization? Include formal name and any common nicknames, abbreviations, etc.
2. Describe the scope or boundaries of the organization (i.e., specifically--which members/groups are included in the analysis and which are not)
3. In approximately what year was the organization founded?
4. Approximately how many members make up the organization of interest?

5. Approximately how many members of the organization perform the basic work related to an organization's product or service?
6. Approximately how many members of the organization are managers who transfer (information) between higher and lower levels of the organizational hierarchy?
7. Approximately how many members of the organization are top-level executives responsible for running the organization?
8. Approximately how many members of the organization are specialists/technicians responsible for standardizing various aspects of the organization's activities?
9. Approximately how many members of the organization are individuals who provide indirect support services to the organization?
10. Approximately how many members of the organization are not included in the previous five categories/questions?
11. Where is the organization headquartered? Is the work (provision of goods and/or services) performed in a single location or distributed across multiple locations? What are these locations?
12. What is the primary purpose of the organization? What is its "mission"?
13. What are the "products" or goods or services that the organization produces?
14. Who are the "clients/customers/consumers" for the products/goods/services the organization produces?
15. With what other organizations does this organization cooperate/coordinate to meet common objectives?
16. From what other organizations does this organization face opposition or competition?

2. Organizational Characteristics: Questions & Summaries

Organizational characteristics are those aspects of an organization that might either influence or result from the organization's structure and functioning. Areas of interest include the operating environment, technology, climate/culture, and status.

Summary

There are a number of perspectives taken in the research literature on organizations. This tab concerns the characteristics that seem to distinguish different kinds of organizations. The characteristics we try to identify in this tab reflect a common approach to organizations called the *contingency model* (also referred to as structural contingency theory). With regard to these characteristics (or contingency factors), a number of dimensions have emerged in the research literature over the years. Clearly size and sector of the economy in which the organization operates are characteristics of the organization. However, the research literature has tended to focus on broader categories of characteristics. For example, substantial literature has focused on how technology is applied by the organization typically for its production processes, although this need not be the case. Although there is a general agreement in the literature that there are characteristics that differentiate different kinds of organizations (e.g., Wagner & Hollenbeck,

1992), researchers have not been consistent in terms of the dimensions or characteristics that are important (cf., Miner, 2006).

For the questions that arise in this tab regarding characteristics of organizations, we have relied upon Katz and Kahn (1978) and Mintzberg (1979) who preferred to call them contingencies. However, most textbooks on organizations dedicate a good discussion to organizational characteristics. Robbins (1994) provides a good summary. Robbins focused on organizational strategy, organizational size, technology utilized, environment external to the organization, and power dynamics in the organization as organizational characteristics. Mintzberg focused on similar contingencies of size, age, technology, environment and power; although in his writing it is clear that he considered additional characteristics (e.g., decentralization) of the organization to play a role in its structure as well as how it operates and functions. Although Katz and Kahn focused most of their attention on subsystems, they also described important contingency factors (characteristics) such as centralization, size, environmental factors, and power. Much of the research has emphasized technology and environment as the important factors that differentiate organizations, but this research also tends to focus on production organizations (e.g., Katz & Kahn's focus on the automobile industry).

These approaches often consider technology, the environment, centralization-decentralization, and power-control to be complex, dimensional, or multi-dimensional notions of the characteristics that influence an organization. Consequently, a number of questions are provided in this tab to reflect the most salient dimensions of these characteristics.

Relevant Research Literature

Katz, D., & Kahn, R.L. (1978). *The Social Psychology of Organizations* (2nd ed.). New York: John Wiley & Sons.

Miner, J.B. (2006). *Organizational behavior 2: Essential Theories of Process and Structure*. Armonk, NY: M.E. Sharpe.

Mintzberg, H. (1979). *The Structuring of Organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Robbins, S.P. (1994). Organizational Design. Chapter 13 in *Essentials of Organizational Behavior* (4th ed.). Englewood Cliffs, NJ: Prentice-Hall.

Wagner, J.A., & Hollenbeck, J.R. (1992). *Management of Organizational Behavior*. Englewood Cliffs, NJ: Prentice-Hall.

Q1: Operating Environment Stability

How predictable (stable) is the environment in which the organization operates? (i.e., how predictable is the operating environment with regard to its impact on the organization's functioning?)

Response Scale: Not at all predictable – Extremely predictable

Summary

Organizational climate refers to the perceptions that members of an organization have about key features of the organization. It is the members' perceptions that generally influence the members' attitudes, motivation, and ultimately their productivity. The perceptions that organizational members have of their organization influence their reactions. Consequently, if members perceive the organization as being stable, they will act accordingly. If they perceive the organization undergoing dramatic change, they will act with regard to those perceptions as well.

This question refers to perceptions of the stability of the organization's structure and personnel (e.g., volatile with frequent changes to very stable with little perceptible change in structure). The changes that an organization may be undergoing may be intentional (often driven by top management) or unintentional (perhaps brought about by changes in the operating environment). Similarly, we can think of the changes as being disruptive or strategic with regard to how they influence the way the organization operates and functions. The more stable an organization, the more likely it will be able to maintain its culture; and the organizational culture can be a strong force for organizational stability in both structure and personnel.

When organizations have stable structures, a number of other structural conditions in the organizations arise as well. More support staff and administrative personnel accumulate to conduct the functions that become routines in the organization (Daft, 2007; Mintzberg, 1979). Organizations can undergo structural changes but maintain the personnel in the organization (Some organizations are intentionally structured this way, such as learning organizations). Although the organization may have an unstable organizational structure, by maintaining the personnel within the organization, the knowledge about the organization, its purposes, its technology, and the way it operates and functions (e.g., the organization's culture) can be maintained. When organizations have dramatic changes in personnel, then the knowledge regarding the organization (i.e., technology, work processes, informal networks, goals, relationships, culture) is degraded as well with the degree of loss of the former personnel. A strong set of internal (bureaucratic) controls (e.g., administrative, information, command) can compensate for changes in personnel, but effectiveness of the organization does diminish nonetheless.

When an organization is stable in structure and personnel, it is much more predictable in its actions. This predictability is a hallmark of many bureaucracies. If one wants to predict what the organization's response to a change in the environment will be (e.g., doubling the costs of petroleum), there is less uncertainty about what the potential response might be and how reliably they might be implemented with a stable organization. When the organization is undergoing extensive change in structure and/or personnel, the decisions and actions are much less certain. Members of these volatile organizations also suffer from the stress associated with uncertainty (see Quick & Quick, 1984, on the antecedents and consequences of organizational stress; Katz &

Kahn, 1978, also discuss stress). This stress can influence the processes by which information is used and the quality of decisions that result.

Relevant Research Literature

This discussion involves reflection on some material in Daft (2007, Chap 11) on change in organizations. For more examination of strategic change in personnel, a textbook on Human Resource Management will be useful (see particularly Noe, Hollenbeck, Gerhardt, & Wright, 2010, for its emphasis on strategic human resource management). Organizational climate and culture are discussed in most textbooks on organizational theory (e.g., Daft, 2007) and organizational behavior (e.g., Wagner & Hollenbeck, 2009). There are also edited volumes describing research on organization climate and culture (Ashkanasy, Wilderom, & Peterson, 2011). Similarly, textbooks on organizational behavior (e.g., Wagner & Hollenbeck, 2009) give attention to organizational climate and culture.

Ashkanasy, N. M., Wilderom, C. P. M., & Peterson, M. F. (2011). *The Handbook of Organizational Culture and Climate* (2nd ed.). Thousand Oaks, CA: Sage.

Daft, R.L. (2007). *Organization Theory and Design* (9th ed.). Mason, OH: Thomson South-Western.

Katz, D., & Kahn, R.L. (1978). *The Social Psychology of Organizations* (2nd ed.). New York: John Wiley & Sons.

Mintzberg, H. (1979). *The Structuring of Organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Noe, R.A., Hollenbeck, J.R., Gerhardt, B. & Wright, P.M. (2010). *Human Resource Management*. New York: McGraw-Hill/Irwin.

J.C. Quick J.C., & Quick, J.D. (1984). *Organizational Stress and Preventive Management*. New York: McGraw-Hill.

Wagner, J. & Hollenbeck, J.R. (2009). *Organizational Behavior*. New York: Routledge

Q2: Operating Environment Complexity

How complex is the organization's operating environment? (i.e., to what extent does it require the organization to have sophisticated knowledge about products, technologies, customers, enemies, etc.?)

Response Scale: Very Simple – Very Complex

Summary

An organization's operating environment is complex to the extent that it requires the organization to have a great deal of sophisticated knowledge about products, customers, technologies, or other aspects of its environment. Does the organization have many competitors, collaborators, customers, or controllers (e.g., regulators)? To what degree does the organization have heterogeneous or homogeneous products, customers, or markets? In general, complexity concerns the number of elements of its operating environment that an organization must keep track of and how dissimilar those elements are. In the literature, the opposite of complexity is a simple organizational environment.

A complex organizational environment involves interacting with, and being influenced by, a large number of diverse elements. The number of different problems an organization faces is a function of the environmental complexity, and to the degree the organization faces complexity, it must also be more responsive (adaptive) to such an environment. Consequently, complexity influences organizational effectiveness by impacting the amount of information and skills that members of the organization must possess and process to cope with the environmental demands. As an example of how complexity influences organizational functioning, Mintzberg (1979, Chap 15) offers Hypothesis 10: The more complex the environment, the more decentralized the structure. The simpler the operating environment the more the processes and decision making can be centralized.

Although it is important to maintain the distinction between predictable/dynamic and simple/complex dimensions of organizations, they are related in terms of how organizations are generally arranged. Many authors argue there are specific kinds of patterns of effective structure: a centralized structure for simple environments and a decentralized structure for complex environments. When the organizational environment or organizational structure changes or varies from these forms, one might find that the organization will suffer from a misalignment between the environment and structure. A number of other conditions of misalignment might result as well (see Mintzberg, 1979, Figure 15-1, as an example).

More information about the simple/complex dimension of the organizations operating environment can be found in a good organizational behavior textbook (e.g., Robbins' *Essentials of Organizational Behavior*) or good organization theory textbook (such as Daft's *Organization Theory and Design*) when the aspects of the external environment are discussed.

Material considered for this overview is also taken from Katz and Kahn (1978, Chap 5) Environment in *The Social Psychology of Organizations* and Mintzberg (1979, Chap 15) Environment in *The Structuring of Organizations*.

Relevant Research Literature

Daft, R.L. (2007). *Organization Theory and Design* (9th ed.). Mason, OH: Thomson South-Western.

Katz, D., & Kahn, R.L. (1978). *The Social Psychology of Organizations* (2nd ed.). New York: John Wiley & Sons.

Mintzberg, H. (1979). *The Structuring of Organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Robbins, S.P. (1994). *Essentials of Organizational Behavior* (4th ed.). Englewood Cliffs, NJ: Prentice-Hall.

Q3: Operating Environment Diversity

How diverse is the "market" that the organization serves? (i.e., to what degree does the organization provide diverse services, serve diverse groups, or work in diverse locations?)

Response Scale: Not at all diverse – Very Diverse

Summary

Environmental diversity reflects the number of different domains the organization serves. For example, an organization with greater diversity serves more customer domains, more kinds of products (or goods/services) and more types of locations. A uniform (integrated; non-diverse) organizational environment would reflect an organization that might serve one kind of customer with only one product in one location. For an example, a dry-cleaner that sits just off a base, serving officers by cleaning their dress uniforms. In contrast, many multi-national companies (e.g., General Electric) serve a diverse array of customers (local and federal governments, industries, and individuals) with many products (financial, jet engines, light bulbs) in locations spread across the globe.

Environmental diversity influences how an organization operates and functions. The more diverse an organization's environment, the more diversity that must be built into its structure. Also, diversity influences the organization's structure through another mediating variable, that is, environmental diversity of the organization influences the diversity of the work that the organization has to do. Also, the organization must be able to adjust to diversity in the environment if it is to be effective. As a consequence, Mintzberg (1979, Chap 15) states Hypothesis 11: The more diversified the organization's environment (markets), the greater the propensity there is for it to split into market-based units (i.e., *diversification breeds divisionalization*). Consequently, a good deal of the decision-making responsibility will be delegated to managers of the divisions (market units). However, this is dependent on there being economies of scale occurring with divisions or if the diversity focuses on a common technical system or function that cannot be segmented. Note that organizational size is related to diversity and divisionalization. The smaller the organization, the less need to break up into smaller units to serve the markets and customers. Smaller organizations can use small units or groups (departments) to get the work done whereas larger organizations will construct divisions.

Dividing up functions and operations in an organization is an adaptive means of responding to diversity in the organization's environment. While this segmentation is adaptive, it also functionally distances one segment from another in the organization. This then means that to maintain relations, some forms of communication are necessary. If the technology, inter-unit rivalry, or organizational culture produces enhanced segmentation, the organization will be more likely to fracture and develop factions.

Throughout the discussion of organizational environment, it is not the environment itself that counts, but the organization's ability to cope with it, to predict it, comprehend it, deal with its diversity, and respond quickly to it.

More information about the diversity/integrated dimension of the organizations operating environment can be found in a good organizational behavior textbook (e.g., Robbins' *Essentials*

of Organizational Behavior) or good organization theory textbook (such as Daft's *Organization Theory and Design*) when the aspects of the external environment are discussed.

Material considered for this overview is also taken from Katz and Kahn (1978, Chap 5) Environment in *The Social Psychology of Organizations* and Mintzberg (1979, Chap 15) Environment in *The Structuring of Organizations*.

Relevant Research Literature

Daft, R.L. (2007). *Organization Theory and Design* (9th ed.). Mason, OH: Thomson South-Western.

Katz, D., & Kahn, R.L. (1978). *The Social Psychology of Organizations* (2nd ed.). New York: John Wiley & Sons.

Mintzberg, H. (1979). *The Structuring of Organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Robbins, S.P. (1994). *Essentials of Organizational Behavior* (4th ed.). Englewood Cliffs, NJ: Prentice-Hall.

Q4: Operating Environment Hostility

How hostile is the organization's operating environment? (Hostility can come from enemies, competitors, relations with unions, government regulation, etc.)

Response Scale: Not at all hostile – Very hostile

Summary

Organizations face varying degrees of hostility from their operating environment. Hostility may come in the form of fierce competition from rivals or enemies, or in the form of highly restrictive laws and regulations that limit the organization's ability to pursue its interests.

When an organization faces a very hostile environment, it may have difficulty gaining necessary resources such as financing, employees, materials, technology, or knowledge needed to fulfill its purposes. This difficulty acquiring resources may threaten the very survival of the organization and may put the organization into a state of crisis. Alternatively, in a non-hostile or "munificent" environment, the organization is able to fulfill its needs for people, resources, money, skills, and technologies. It can easily supply the goods and services its stakeholders (e.g., clients, customers, voters, citizens) expect.

This dimension of environmental hostility vs. munificence is generally a function of competition, critical relationships with other organizations, and availability of resources. Hostility affects the structure of organizations in that hostile work environments are unpredictable ones. Additionally, organizations facing hostile environments require fast responses to the limitations of the operating environment. When an organization is experiencing threat from hostile operating environments, it often centralizes operations so that the critical threatening aspects of the environment can be quickly resolved. The hostile environment receives tremendous attention since the viability of the organization may be at stake. Consequently, Mintzberg (1979, Chap 15) states Hypothesis 12: Extreme hostility in its environment drives any organization to centralize its structure, at least temporarily. Moreover, Katz and Kahn (1978) remark that organizations in less generous environments are more likely to engage in illegal and unethical activities.

There are numerous examples of organizations that close-down, default, or fail because its critical needs are not met or are too scarce. It is clear that when hostility is chronic, many organizations do not survive. Consequently, for organizations to be viable, they need to have secure access to resources, funding, personnel, and clients that desire the goods and services that the organization provides. Threats to any of the elements can undermine the viability of the organization.

More information about the hostility aspect of the organization's operating environment can be found in a good organizational behavior textbook (e.g., Robbins' *Essentials of Organizational Behavior*) or good organization theory textbook (such as Daft's *Organization Theory and Design*) when the aspects of the external environment are discussed.

Material considered for this overview is also taken from Katz and Kahn (1978, Chap 5) Environment in *The Social Psychology of Organizations* and Mintzberg (1979, Chap 15) Environment in *The Structuring of Organizations*.

Relevant Research Literature

Daft, R.L. (2007). *Organization Theory and Design* (9th ed.). Mason, OH: Thomson South-Western.

Katz, D., & Kahn, R.L. (1978). *The Social Psychology of Organizations* (2nd ed.). New York: John Wiley & Sons.

Mintzberg, H. (1979). *The Structuring of Organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Robbins, S.P. (1994). *Essentials of Organizational Behavior* (4th ed.). Englewood Cliffs, NJ: Prentice-Hall.

Q5: External Control of the Operating Environment

To what degree is the organization controlled - directly or indirectly - by an external organization? (e.g., a board of directors, a higher-level government agency, an exclusive supplier)

Response Scale: Not at all controlled/influenced – Highly controlled/influenced

Summary

A consideration for characterizing an organization is the degree to which it is subject to external control. The control and power that external forces have on an organization are important for understanding the operation and functioning of the organization. An organization that is greatly regulated by a government agency will be structured and function differently than one that is private and unregulated. Other organizations might be subsidiaries of larger ones that exert great control over the subsidiary. There are also organizations that are controlled by external firms such as sole-source vendors of resources or single-customer purchasers of the organization's good and services. For example, if a health provider relies extensively on a single insurance company for paying for its services, then the insurance company has great leverage on setting the price for the services. A traditional approach to external control is an external board of directors (supervisors, regents) or a similar reporting body. For example, the schools and the superintendents/principals in a school district must report to the local school board.

The degree of external control on an organization influences the organization's operations. Mintzberg (1979; Chap 16) provides Hypothesis 14: The greater the external control of the organization, the more centralized and formalized its structure. Outside control tends to concentrate decision-making power at the top of the organizational hierarchy and to encourage greater than usual reliance on rules and regulations for internal control of the organization's operations. In this fashion, authority is centralized and operations become more formalized. Mintzberg suggests that the two most effective means to control an organization from the outside are (1) to hold its most powerful decision maker responsible for its actions (e.g., Chief Executive Officer reports to the firm's Board of Directors), and (2) to impose clearly defined standards of work, policies, and product on the organization. The first centralizes its structure; the second formalizes it.

Relevant Research Literature

More information about the external control of the organization is discussed in:

Mintzberg (1979, Chap 16) Power in *The Structuring of Organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Pfeffer, J., & Salancik, G. R. (1978). *The External Control of Organizations*. New York: Harper & Row.

Q6: Power/Influence over Other Organizations/Populations

To what degree does the organization wield power/influence over other organizations or populations?

Response Scale: Not at all powerful/influential – Very powerful/influential

Summary

An important feature that characterizes organizations is the degree of power and influence they have over other organizations or populations. In a sense, this is the control the organization has over others in its environment. Power is the capacity to change the way an individual thinks, feels, or acts. Organizations have this power over its own members, but also that of members of other organizations or populations. Organizational influence is the change in the thoughts, feelings, or actions of an individual that results from an organization wielding its power. Organizations can also have power over other organizations by influencing the actions that the other organization can and cannot engage in. When an organization can wield power and influence over others, it has a responsibility toward these others that are dependent upon the organization. If treated appropriately, the responsibility and dependence among organizations can be very respectful, fruitful, and contribute to the effectiveness of both parties.

Power and influence is seen as an important dimension that characterizes organizations (Robbins, 1994). Mintzberg devoted an entire book to *Power In and Around Organizations* (1983). One of the topics that helps understand power and influence is interdependence. Organizations often have multiple interdependencies. An organization (e.g., Transportation Security Administration, TSA) can have influence over other organizations (e.g., American Airlines) or populations (e.g., the flying public in the U.S.). However, as a consequence, the organization has to be responsive to the desires of the population (e.g., safe travel and protection against attacks) and the other organization (e.g., non-interference with airline operations). Additionally, an organization (e.g., TSA) might also be dependent upon the other organization to help reach its goals (e.g., sharing passenger lists) as well as the support of the population (e.g., paying the TSA security fees, putting up with the inconvenience of TSA screening). Thus, the interdependencies of an organization often tell us much about the power and influence the organization wields over other organizations and populations. Consequently, an important way of understanding the nature of an organization is to understand the power and influence it wields over others.

Because of the interdependent nature of the relationship between an organization and other organizations and populations, both parties can be vulnerable to the inaction or misdeeds of the other. In most any relationship, individuals often attribute intent to the actions or inaction of another party that harms them (Shaver, 1985). Organizations similarly attribute that other organizations intend to harm them and take advantage of the vulnerability that is inherent in a relationship. Organizations, like individuals, may not always be mindful of the consequence of their actions or inactions on others. Organizations may judge that other organizations or the population does not appreciate all that the organization does for these others. There is a substantial literature on misattribution in relationships (Kelley, 1979) and an extensive literature having to do with interdependence (e.g., interdependence theory; Rusbult & Van Lange, 2008). These literatures help explain how fundamental aspects of interdependence and attribution theories impact relationships between organizations.

Relevant Research Literature

Kelley, H.H. (1979). Personal Relationships: Their Structures and Processes. Hillsdale, N.J.: Erlbaum Associates.

Mintzberg, H. (1983). *Power in and around Organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Robbins, S.P. (1994). *Essentials of Organizational Behavior* (4th ed.). Englewood Cliffs, NJ: Prentice-Hall.

Rusbult, C.E., & Van Lange, P.A.M. (2008). Why we Need Interdependence Theory. *Social and Personality Psychology Compass*, 2(5), 2049-2070.

Shaver, K. G. (1985). *The Attribution of Blame: Causality, Responsibility, and Blameworthiness*. New York: Springer-Verlag.

Q7: Physical Distribution of the Operating Environment

To what degree are the organization's operations, markets, and personnel dispersed or centralized?

Response Scale: Confined to a single centralized location – Truly global organization

Summary

The distribution or dispersion of the organization's operations, markets, and personnel is directly related to the way an organization functions as well as its structure. Organizations can have their operations physically located near each other and be centralized. This is often the case with smaller organizations that exist entirely in one physical location. Alternatively, another organization may have its operations or portions of its operations physically distributed. For example, Boeing's corporate headquarters are in Chicago while much of its manufacturing operations are in the Seattle area. Generally, as organizations become larger and have different kinds of markets, they distribute operations (e.g., the Western sales district). Mintzberg (1979, 1989) describes this as the diversified or divisionalized organizational form and discusses how it often comes about. However, with modern transportation and supply networks, many smaller organizations distribute some of its operations. One example of this is to outsource operations, sometimes offshore. So, operations and markets can lead to physical distribution of the organization, but personnel can be distributed as well as the example of Boeing illustrates. Because of distributed organizational operations, organizational personnel often have to follow these distributed operations to pursue and stay close to markets, or to take advantage of a physical location (e.g., many organizations locate operations to be near transportation hubs).

Most organizations favor centralized operations because it makes communication, coordination, and control by staff and managers easier. However, dispersed and distributed operations are often pursued because they provide benefits to the organization. As mentioned, these benefits can include being close to markets and clients, but it might also include natural resources, financial agents, transportation, and personnel with the necessary training. Organizations generally pursue centralized functions and must therefore perceive some benefit to have a dispersed organization. There are challenges posed by having dispersed operations. As a logistics issue, dispersion increases the need for accurate and speedy communication. If the communication system is inadequate, operations are likely to function more poorly. Also, dispersed operations mean that coordination and collaboration among units may suffer. As is said of organizations, “the right hand doesn't know what the left is doing.” Consequently, if coordination is necessary to achieve organizational objectives, the dispersion may hinder accomplishment of objectives. Dispersion also makes command and control more difficult because “management” (or officers) cannot closely examine the efforts of personnel supposedly under their control. Leadership is much harder to execute when personnel are physically distant from those filling the leadership function. However, there are potential limitations to centralized operations as well. With limited exposure to the perspectives external to the organization, the organization can become insulated and may become too bound to traditions and routines. Moreover, with direct control available for managers, it is easy to limit the autonomy that skilled members of the organization might need to operate most effectively. Consequently, there are benefits and limitations that result from an organization centralizing or dispersing its operations. These benefits often contribute to the organization pursuing one or the other strategy, and the structure of the organization generally follows that strategy.

Relevant Research Literature

There has been considerable discussion of the physical dispersion of organizational operations in the organizational theory literature with the advent of outsourcing and then the notion of virtual organizations. See Daft (2007) for some of this discussion.

Daft, R.L. (2007). *Organization Theory and Design* (9th ed.). Mason, OH: Thomson South-Western.

Mintzberg, H. (1979). *The Structuring of Organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Mintzberg, H. (1989). *Mintzberg on Management*. New York: Free Press.

Q8: Technological Sophistication in Goods and Services

How sophisticated is the technology that is used by the organization to produce its goods and services?

Response Scale: Not at all sophisticated – Very sophisticated

Summary

The organizational science literature has discussed technology in the production of goods and services extensively. In terms of the characteristics that are often used to define modern organizations, technology has received much attention (see Katz & Kahn, 1978; Mintzberg, 1979). Some of this discussion has focused on how technology is used (e.g., small batch processing) or the kinds of technology involved (e.g., computer-aided design). This question of technological sophistication takes a more general approach to consider how sophisticated the understanding is that is required to operate the technology that is used to produce the goods and services that the organization offers its clients/customers.

Technology here refers to the processes, techniques, methods, machines, and actions used to transform the inputs the organization receives into the core products that are the organizations outputs (i.e., goods and services). The sophistication of the technology the organization uses in its core operations represents a summary of “the complexity or intricateness of the technical system, namely how difficult it is to understand” (Mintzberg, 1979, p. 251). Some technology may be very complicated; however, the operator needs very little knowledge to operate the technology. For example, an elevator may be a complex technology to move from floor to floor in the building, yet it is relatively simple to operate (we have eliminated the elevator operator job decades ago as well as many other jobs when the technology became easy for anyone to operate and has become automated). Other technology may appear simple, but it requires extensive knowledge to understand how to operate the technology (e.g., a fighter jet). As Mintzberg implies, the sophistication of technology reflects how hard it is to comprehend how to operate the technology. Similarly, the core operations of an organization may be relatively unsophisticated for an operator (e.g., an automated refinery) or highly sophisticated requiring high levels of skills and training (e.g., nuclear plant on a submarine).

Mintzberg (1979; Chap 14) provides a few hypotheses regarding technological sophistication and also discusses the technology as a characteristic of the organization. The hypotheses describe the relationship between organizational structure and the sophistication of the technical system. In particular, “*Hypothesis 7: The more sophisticated the technical system, the more elaborate the administrative structure, specifically the larger and more professional the support staff, the greater the selective decentralization (to that staff), and the greater the use of liaison devices (to coordinate the work of that staff).*” (Mintzberg, 1979, p. 262). This hypothesis suggests that as the technical system becomes more sophisticated to understand, the support and administrative staff in the organization becomes larger and more elaborate. Moreover, the different segments of the organization have more formal relationships that serve to coordinate the work of the operators and the support and administrative staff. Additionally, because the operators of the technology require greater understanding of that technology, they become more professional. Consequently, research has found that as the technical system became more sophisticated, the number of operators or administrative staff under the control of a supervisor (manager, officer) became fewer or the number of levels of control in the organization increased. Not surprisingly,

the professional operators gained influence in the organization (e.g., doctors in the emergency room), and that some power to make decisions shifted from upper management to the middle levels which have more direct contact with the organization's core operations (see also Mintzberg, 1979, Figure 14-2, p. 264). These findings suggest that technological sophistication becomes linked to the structure of the organization reflecting how it operates and functions.

Relevant Research Literature

There has been considerable discussion of technology in organizational theory as reflected in Katz and Kahn (1978) and Mintzberg (1979) as mentioned above. Moreover, this topic is covered in most organizational theory textbooks (see Daft, 2007, for some of this discussion) as well as in organizational behavior and design (see Robbins, 1994).

Daft, R.L. (2007). *Organization Theory and Design* (9th ed.). Mason, OH: Thomson South-Western.

Katz, D., & Kahn, R.L. (1978). *The Social Psychology of Organizations* (2nd ed.). New York: John Wiley & Sons.

Mintzberg, H. (1979). *The Structuring of Organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Robbins, S.P. (1994). *Essentials of Organizational Behavior* (4th ed.). Englewood Cliffs, NJ: Prentice-Hall.

Q9: Technological Sophistication of Non-Production Operations

How sophisticated is the technology that is used in the organization's non-production/services activities? (e.g., management, communications, accounting, logistics)

Response Scale: Not at all sophisticated – Very sophisticated

Summary

The organizational science literature has focused on the technology used in the production of goods and services extensively. However, this question focuses on another influence of technology in the organization, namely the role of technological sophistication in the *non-production operations* (i.e., support specialists, administrative support personnel). For example, a medical facility might provide magnetic resonance imaging (MRI) as a diagnostic tool. The diagnostic results of the MRI are used in the medical facilities operations in health care. Yet, the MRI requires a physicist with extensive graduate training to operate the MRI technology effectively. The physicist does not do the diagnosis based on the image, but is a specialist who supports the core operations of the organization. In this way, the technological sophistication of non-production operations may require high levels of understanding of the technology.

Technology here refers to the processes, techniques, methods, machines, and actions used to transform the inputs the organization receives into the core products that are the organizations outputs (i.e., goods and services). The sophistication of the technology the organization uses in its non-production operations represents a summary of “the complexity or intricateness of the technical system, namely how difficult it is to understand” (Mintzberg, 1979, p. 251). Some organizations have very technical systems used in its core (production/service) operations (e.g., a commercial airline) which require extensive technological sophistication in its non-production operations (e.g., maintenance, logistics). Other organizations may have sophisticated technical systems for production (e.g., winery) but unsophisticated technology in its support, maintenance, and administrative functions. To help understand the structure and function of an organization, it is also helpful to understand how sophisticated the non-production operations are of that organization.

Although the technological sophistication of the non-production (non-operating core) aspects of the organization is important, it does not receive as much attention in the organizational science literature (Daft, 2007). Mintzberg (1979) also describes how the sophistication of the non-production technology of the organization influences the structure of the organization. In particular, as non-production technological sophistication increases, the organization needs to have more people and ways for coordinating the work of the different segments of the organization. Moreover, the individuals who operate the sophisticated non-production technology gain more influence within the organization (e.g., machinists in a commercial airline who do the critical maintenance and repairs). The middle level management that then supervises these technological specialists also gain more influence in the operations and function in the organization even though they do not contribute directly to the production of the organization’s goods and services. For organizations that do not have sophisticated non-production technology, these support functions become less critical within the structure of the organization and may be outsourced (e.g., a law firm that contracts for cleaning of offices). An organization can become vulnerable when it places unskilled, untrained, and unsupervised individuals in critical sophisticated technological support positions (e.g., contracting of functions in Iraq essential to military operations) or letting administrative and support personnel who operate unsophisticated

technology have too much control over how the organization operates and functions (e.g., attendants in a parking facility arbitrarily dictating when and how vehicles are parked).

Relevant Research Literature

Mintzberg (1979) describes technological sophistication as well as the distinction between production and non-production operations. There is some similar discussion of technology of non-operating function in the organizational theory literature and textbooks (see Daft, 2007, as an example).

Daft, R.L. (2007). *Organization Theory and Design* (9th ed.). Mason, OH: Thomson South-Western.

Mintzberg, H. (1979). *The Structuring of Organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Q10: Technological Regulation of Work

To what degree do the operators' instruments control or regulate the work they do (e.g., operator provides a specimen and an instrument provides a report, or an operator enters data but a tool conducts analysis and interprets results for a report)?

Response Scale: Technology does not control/regulate at all – Technology provides a Very high degree of control/regulation

Summary

Technology plays an important role in many aspects of the way an organization functions. A definition for technology is that it is the processes, techniques, methods, machines, and actions used to transform the inputs the organization receives into the outcomes the organization desires to produce (i.e., goods and services). This question focuses on how technology influences the work of the operators of the technology. That is, to what degree does the technology control and regulate the work of the operator. The QWERTY structure on a typewriter was originally introduced so that the typist (operator) would not type faster than the typewriter could mechanically handle. On many production lines, the speed of the line is controlled so that operators cannot change the pace of the process. Other technology is less restrictive and controlling, allowing operators to have much more discretion in how they conduct their work process (e.g., a shovel for digging a ditch). Automated, rigid technologies like in a food production facility are much more regulated. Flexible, diverse, and non-automated technologies provide much less regulated control of work.

Mintzberg (1979) hypothesizes that there are relationships between the regulation of the organization's technical system and the organization's structure. Specifically, "Hypothesis 6: The more regulating the technical system, the more formalized the operating work and the more bureaucratic the structure of the operating core." (p. 261). This hypothesis implies that technologies that are highly regulating and controlling lead to more bureaucracy of the production aspects of the organization as well as more formal rules and procedures for how the organization operates. Additionally, Hypothesis 8: "The automation of the operating core transforms a bureaucratic administrative structure into an organic one." That is, as the technology used for production becomes more automated, then management can become less controlling because the operators have less discretion in how to act. Moreover, as the technology of production becomes more automated, the social relationships in the organization among operators and between operators and management change. Automation of routine tasks is predicted to eliminate many of the social conflicts throughout the organization. As a consequence of the automation, there is less involvement and variability of human behavior in the organization's operations. As one seeks ways to influence the behavior of operators in the organization, the implication is that automated production will reduce the opportunities to influence operator behavior. Alternative approaches at influence will likely need to be considered if automation controls production.

Relevant Research Literature

This discussion is based upon Mintzberg's (1979) discussion of regulation of work by technology. He draws heavily upon the classic work of Woodward (1965).

Mintzberg, H. (1979). *The Structuring of Organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Woodward, J. (1965). *Industrial Organization: Theory and Practice*. London: Oxford University Press.

Q11: Homogeneity among Members

To what degree is the organization homogeneous with regard to member culture?

Response Scale: Not at all homogeneous – Completely homogeneous

Summary

Organizational culture is defined as the set of values, guiding beliefs, norms, and understandings that are shared by members of an organization (Daft, 2009). It is important to recognize that these values, beliefs, and norms are those notions that guide the thoughts, feelings, and actions of the organization's members with regard to the organization and its actions. Also, the definition points out that these values, norms, and beliefs are shared among the members of the organization. Critically, this organizational culture must be taught (training, socialization) to individuals who become members of the organization and as such may not be well shared among the existing and newcomers to the organization. This question focuses on the degree that these values, norms, and beliefs are shared among the organization's members (i.e., homogeneity of organizational culture among members). As the definition of organizational culture mentions, it also includes the "understandings" that members have about the organization and its actions. If the organization's members have shared values, beliefs, norms, and understanding, then the organization can more effectively pursue its goals and objectives, and is more likely to be successful (Daft, 2009). To the degree that members share these values, norms, beliefs, and understandings, then the organizational culture is more likely to have an impact on the organization's goal pursuits.

Note, however, that the assumption directly above is that the organization's goals and objectives will contribute to its effectiveness. The organization's goal and objectives may not be aligned with external realities of the organization, and hence success in reaching the goals and objectives might make it an ineffective organization with regard to its interactions with the external environment. It is also important to note that the organization's culture may not be aligned with the organization's goals and objectives. It is easy to imagine an organization that has a culture of bureaucracy in which the traditional means of doing things and understanding how the organization operates is deeply embedded in the organization and what members are taught about the organization. In contrast, the organization may have goals and objectives of being adaptive to the external realities of the organization when the organization has a culture that is inconsistent with this goal of adaptive response to the external environment. If the training and enculturation process of the organization does not provide the new and existing members an adequate understanding of the guiding values, beliefs, and norms, then the culture for the organization is likely to be unstable and poorly shared among the members as well as unaligned with the organization's needs for a culture. Moreover, to the degree that the members share the organizational culture, then they are more able and likely to follow those guiding beliefs, values, norms, and understandings of the organization and its actions. In this way, an understanding of the homogeneity among the organization's members about the degree they share the culture is important for understanding how it acts and reacts toward influences internal and external to the organization.

Relevant Research Literature

This discussion is based upon a general understanding of organizational culture. Organizational culture is discussed in most textbooks on organizational theory (e.g., Daft, 2009) and organizational behavior (e.g., Wagner & Hollenbeck, 2009). Also, most handbooks of organizational psychology will have a discussion of research on organizational climate (e.g., Anderson, Ones, Sinangil, & Viswesvaran, 2001). There are also compendium of organizational culture such as the *Handbook of Organizational Climate and Culture* (Ashkanasy, Wilderom, & Peterson, 2011).

Anderson, N., Ones, D. S., Sinangil, H. K., & Viswesvaran, C. (2001). *Handbook of Industrial, Work, and Organizational Psychology* (Vol. 2: *Organizational Psychology*). Thousand Oaks, CA: Sage.

Ashkanasy, N. M., Wilderom, C. P. M., & Peterson, M. F. (2011). *The handbook of organizational culture and climate* (2nd ed.). Thousand Oaks, CA: Sage.

Daft, R.L. (2007). *Organization Theory and Design* (9th ed.). Mason, OH: Thomson South-Western.

Ashkanasy, N.M., & Jackson, C.R.A. (2001). Organizational Culture And Climate. In N. Anderson, D. S. Ones, H. K. Sinangil, & C. Viswesvaran, (Eds.), *Handbook of Industrial, Work, and Organizational Psychology* (Vol. 2: *Organizational Psychology*, pp. 398-415). Thousand Oaks, CA: Sage.

Wagner, J. & Hollenbeck, J.R. (2009). *Organizational Behavior*. New York: Routledge

Q12: Conflict within the Organization

To what degree is there conflict or fissures between individuals/factions in the organization?

Response Scale: No conflict or fissures – Very high degree of conflict or fissures

Summary

Organizational culture is defined as the set of values, guiding beliefs, norms, and understandings that are shared by members of an organization (Daft, 2007). This definition highlights that these values, norms, and beliefs are shared among the members of the organization. When these values, beliefs, and norms are not shared or are inconsistent among members of the organization, then conflict is likely to erupt among members or factions in the organization. The values, beliefs, and norms that members of the organization have about the organization and its actions guide the members' thoughts, feelings, and actions. Generally, it is believed that each organization has one culture. As the organizational theorist Karl Weick said, 'an organization is a culture.' However, research demonstrates that many organizations may have subcultures that differ by organizational unit or faction (Daft, 2007). When different cultures or subcultures exist in organizations, then conflict among members and factions can arise as a function of the differences in the values, beliefs, and norms. For example, the sales department of an automobile manufacturing corporation may have a different set of beliefs and values than that of the design and engineering department (Katz & Kahn, 1978). These differing values, norms, and beliefs can lead different units or factions of the organization to work or operate at cross-purposes with other units in the organization that do not share the same values, norms, and beliefs. As a result of organizational mergers and acquisitions, a central concern is the integration or melding of the different organizational cultures. Many mergers fail to achieve their objectives because of the conflicts that result from the attempt to integrate two different organizational cultures (Daft, 2007).

This question focuses on the degree that there is conflict among members or factions in the organization in terms of the values, norms, and beliefs which guide the organization and its actions. If the organization's members have shared values, beliefs, norms, and understanding, then the organization can more effectively pursue its goals and objectives (Daft, 2007).

Consequently, to the degree that members do not share the critical values, norms, and beliefs that make up the organizational culture, then the organization is less likely to be effective in defining its goals, planning for action, and executing the desired course of action. One reason why different subcultures and fissures might exist in an organization is that the training and enculturation processes do not adequately provide the new and existing members clear and comprehensible understanding of the guiding values, beliefs, and norms which make up the organization's culture. Because organizations are larger than a simple organization, it is likely that different units or departments in the organization will exist. These different units often have different ways of doing things and their own goals they are expected to achieve, and consequently, it is easy for different values, norms, and beliefs to emerge. One unit's subculture can then be at odds with the cultures of different units in the organization or the organization at large. These differences in perspectives in units can serve as fissures in the organization and may contribute to conflict that hinders overall organizational effectiveness. These fissures can be exploited as leverage points to influence the actions of organizational members or units.

Although some level of conflict exists in most organizations, it rarely impedes the overall functioning and effectiveness of organizations. However, there are some organizations for which conflict becomes the normal way in which the organization operates and functions. These organization's members behave as a function of the conflict and factions in the organization and not based on the organization's goals and objectives. For these kinds of organizations in conflict, organizational 'politics' become the standard operating procedure. Mintzberg (1989) described these kinds of organizations as *politicized organizations* which are characterized by the rampant conflict within the organization. The politics of self-protection, survival, along with coalition formation and infighting among factions become the hallmarks of the politicized organization's operations. Politicized organizations rarely remain in that state; they either transform into a different type of bureaucracy or they fail and no longer exist (e.g., Eastern Airlines).

Relevant Research Literature

This discussion is based upon a general understanding of organizational culture. Organizational culture is discussed in most textbooks on organizational theory (e.g., Daft, 2007) and organizational behavior (e.g., Wagner & Hollenbeck, 2009). There are also edited volumes describing research on conflict in organizations (DeDreu & Gelfand, 2008). Similarly, textbooks on organizational theory (e.g., Daft, 2007) and organizational behavior (e.g., Wagner & Hollenbeck, 2009) give attention to conflict in organizations.

Daft, R.L. (2007). *Organization Theory and Design* (9th ed.). Mason, OH: Thomson South-Western.

De Dreu, C.K.W., & Gelfand, M.J. (2008.). *The Psychology of Conflict and Conflict Management in Organizations*. New York: Lawrence Erlbaum.

Katz, D., & Kahn, R.L. (1978). *The Social Psychology of Organizations* (2nd ed.). New York: John Wiley & Sons.

Mintzberg, H. (1989). *Mintzberg on Management*. New York: Free Press.

Wagner, J. & Hollenbeck, J.R. (2009). *Organizational Behavior*. New York: Routledge.

Q13: Stability in Structure and Personnel

How stable is the structure and staffing of the organization?

Response Scale: Very volatile – changing constantly -or- Very stable – rarely, if ever, changing

Summary

Organizational climate refers to the perceptions that members of an organization have about key features of the organization. It is the members' perceptions that generally influence the members' attitudes, motivation, and ultimately their productivity. The perceptions that organizational members have of their organization influence their reactions. Consequently, if members perceive the organization as being stable, they will act accordingly. If they perceive the organization undergoing dramatic change, they will act with regard to those perceptions as well.

This question refers to perceptions of the stability of the organization's structure and personnel (e.g., volatile with frequent changes to very stable with little perceptible change in structure). The changes that an organization may be undergoing may be intentional (often driven by top management) or unintentional (perhaps brought about by changes in the operating environment). Similarly, we can think of the changes as being disruptive or strategic with regard to how they influence the way the organization operates and functions. The more stable an organization, the more likely it will be able to maintain its culture; and the organizational culture can be a strong force for organizational stability in both structure and personnel.

When organizations have unstable structures, a number of other structural conditions in the organizations arise as well. More support staff and administrative personnel accumulate to conduct the functions that become routines in the organization (Daft, 2007; Mintzberg, 1979). Organizations can undergo structural changes but maintain the personnel in the organization (Some organizations are intentionally structured this way, such as learning organizations). Although the organization may have an unstable organizational structure, by maintaining the personnel within the organization, the knowledge about the organization, its purposes, its technology, and the way it operates and functions (e.g., the organization's culture) it can be maintained. When organizations have dramatic changes in personnel, then the knowledge regarding the organization (i.e., technology, work processes, informal networks, goals, relationships, culture) is degraded as well with the degree of loss of the former personnel. A strong set of internal (bureaucratic) controls (e.g., administrative, information, command) can compensate for changes in personnel, but effectiveness of the organization does diminish nonetheless.

When an organization is stable in structure and personnel, it is much more predictable in its actions. This predictability is a hallmark of many bureaucracies. If one wants to predict what the organization's response to a change in the environment will be (e.g., doubling the costs of petroleum), there is less uncertainty about what the potential response might be and how reliably they might be implemented with a stable organization. When the organization is undergoing extensive change in structure and/or personnel, the decisions and actions are much less certain. Members of these volatile organizations also suffer from the stress associated with uncertainty (see Quick & Quick, 1984, on the antecedents and consequences of organizational stress; Katz & Kahn, 1978, also discuss stress). This stress can influence the processes by which information is used and the quality of decisions that result.

Relevant Research Literature

This discussion involves reflection on some material in Daft (2007, Chap 11) on change in organizations. For more examination of strategic change in personnel, a textbook on Human Resource Management will be useful (see particularly Noe, Hollenbeck, Gerhardt, & Wright, 2010, for its emphasis on strategic human resource management). Organizational climate and culture are discussed in most textbooks on organizational theory (e.g., Daft, 2007) and organizational behavior (e.g., Wagner & Hollenbeck, 2009). There are also edited volumes describing research on organization climate and culture (Ashkanasy, Wilderom, & Peterson, 2011). Similarly, textbooks on organizational behavior (e.g., Wagner & Hollenbeck, 2009) give attention to organizational climate and culture.

Ashkanasy, N. M., Wilderom, C. P. M., & Peterson, M. F. (2011). *The Handbook of Organizational Culture and Climate* (2nd ed.). Thousand Oaks, CA: Sage.

Daft, R.L. (2007). *Organization Theory and Design* (9th ed.). Mason, OH: Thomson South-Western.

Katz, D., & Kahn, R.L. (1978). *The Social Psychology of Organizations* (2nd ed.). New York: John Wiley & Sons.

Mintzberg, H. (1979). *The Structuring of Organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Noe, R.A., Hollenbeck, J.R., Gerhardt, B. & Wright, P.M. (2010). *Human resource management*. New York: McGraw-Hill/Irwin.

J.C. Quick J.C., & Quick, J.D. (1984). *Organizational Stress and Preventive Management*. New York: McGraw-Hill.

Wagner, J. & Hollenbeck, J.R. (2009). *Organizational Behavior*. New York: Routledge

Q14: Organization's Current Status

Within the class of similar organizations, what degree of status is this organization perceived to have?

Response Scale: Very low relative status – Very high relative status

Summary

Organizational status is a term for the position or standing that an organization has as perceived by those who interact with that organization. Organizational status derives most of its conceptualization from organizational sociology. Although the sociologists define status distinct from similar terms such as prestige, honor, legitimacy, respect, esteem, or reputation, people may see the status of an organization as similar notions. This question does not rely heavily on the sociological notion of status, but does ask about the level of status this organization is perceived to have compared to similar organizations. For example, many Americans would be able to judge the status they perceive for different department store retailers with which they are familiar (e.g., Macy's, Sears, Dillards).

There has been important conceptual consideration of the meaning and value of organizational status. Max Weber (who produced the classic work on bureaucracy) suggested that status is along a vertical dimension (low to high), however, status is distinct from power, and when considering social groups, it is distinct from class. The more recent study of organizational status is influenced particularly by the conceptualization of Podolny. Podolny views status as a generalizable and transformable resource that the organization can use when interacting with its operating environment. For example, organizations with higher status are capable of charging clients more for goods or services than similar organizations having lower status (e.g., Levi's jeans versus Rustler jeans). Organizations also may use their perceived status to ask various groups to treat them better as a supplier, to be more respectful and understanding as a client, or for members of the organization to see their employment with the high status organization as part of their compensation.

Podolny and Phillips (1996) provide helpful ways of understanding the dynamics of organizational status. Podolny suggests that organizational status might be best understood as a stockpile of deference that people will give an organization. This status accumulates as a result of the organization's past performance as well as the status of those with whom the organization affiliates (i.e., if someone with value affiliates with the organization, the organization derives some status from the status of the valuable ones with whom it affiliates). Importantly, the possession of status by the organization provides social and economic benefits. Podolny reports that there is some evidence that having higher status results in lower costs, higher prices, and increased growth for an organization.

Podolny and Phillips (1996) link organizational status with attributions of superior quality by those who interact with the organization. So, people often believe that if an organization has high status, it also provides high quality. "Higher status firms are expected to produce superior products." More generally, organizations with high status are believed to pursue higher quality activities than lower status organizations. Podolny suggests that the effects of organizational status on perceptions of the organization's quality are enhanced when people have difficulty

making an objective evaluation of quality because the organization's goods or services are quite complex or ambiguous.

The belief of higher quality being derived from those who are higher in status generally results in consistent benefits to the organizations having the higher status. Because people expect that higher levels of performance or the quality of goods and services will be greater for organizations with high status, those people are more likely to provide the organization with greater resources (e.g., more favorable loans and rates, better supplies, access to better markets). With these greater resources, the organization will in turn be able to enhance its position in the market, its overall performance, and increase and maintain its quality. All of these consequences will then result in the organization gaining more status, which will then contribute back to greater resources. The higher status organizations are likely to gain more status as a result of the organization's preceding status level. Moreover, Podolny and Phillips state that high status organizations are also more likely to influence the direction of innovative activity for a particular technology for which they have status (e.g., Apple iPhone is the technological leader in smartphones).

Relevant Research Literature

Podolny, J.M., & Phillips, D.J. (1996). The Dynamics of Organizational Status. *Industrial and Corporate Change*, 5 (2), 453-471.

Cooper, Cary L. *The Blackwell Encyclopedia of Management*. Blackwell Publishing, . Blackwell Reference Online. 24 August 2012.

<http://www.blackwellreference.com/public/book?id=g9780631233176_9780631233176>

Q15: Organization's Trending Status

Is the status of this organization relative to its peers perceived to be on the rise or decline?

Response Scale: Undergoing a rapid decline in status – Undergoing a rapid rise in status

Summary

Organizational status is a term for the position or standing that an organization has as perceived by those who interact with that organization. Organizational status derives most of its conceptualization from organizational sociology. Although the sociologists define status distinct from similar terms such as prestige, honor, legitimacy, respect, esteem, or reputation, people may see the status of an organization as similar notions. This question asks about the perceived changes in trend in the status of this organization (rising or declining) relative to similar organizations. For example, many retailers of adolescents' clothes in the U.S. are perceived to be 'trendy; in fashion' or 'out of fashion' and that these trends can change rapidly. It is important to note that this organizational status is perceived.

There has been important conceptual consideration of the meaning and value of organizational status. Status is typically defined as falling along a vertical dimension (low to high). The notion of the trend for the organization is that the organization's status is on the decline or is rising. The more recent study of organizational status is influenced particularly by the conceptualization of Podolny. Podolny views status as a generalizable and transformable resource that the organization can use when interacting with its operating environment. For example, organizations with higher status are capable of charging clients more for goods or services than similar organizations having lower status (e.g., Levi's jeans versus Rustler jeans). Organizations also may use their perceived status to ask various groups to treat them better as a supplier, to be more respectful and understanding as a client, or for members of the organization to see their employment with the high status organization as part of their compensation.

Podolny and Phillips (1996) provide helpful ways of understanding the dynamics of organizational status. Podolny suggests that organizational status might be best understood as a stockpile of deference that people will give an organization. This status accumulates as a result of the organization's past performance as well as the status of those with whom the organization affiliates (i.e., if someone with value affiliates with the organization, the organization derives some status from the value of those with whom it affiliates). Importantly, the possession of status by the organization provides social and economic benefits. Podolny reports that there is some evidence that having higher status results lower costs, higher prices, and increased growth for an organization.

Podolny and Phillips (1996) link organizational status with attributions of superior quality by those who interact with the organization. So, people often believe that if an organization has high status, it also provides high quality. "Higher status firms are expected to produce superior products." More generally, organizations with high status are believed to pursue higher quality activities than lower status organizations. Because people expect that higher levels of performance or the quality of goods and services will be greater for organizations with high status, those people are more likely to provide the organization with greater resources (e.g., more favorable loans and rates, better supplies, access to better markets). With these greater resources, the organization will in turn be able to enhance its position in the market, its overall

performance, and increase and maintain its quality. All of these consequences will then result in the organization gaining more status, which will then contribute back to greater resources.

Higher status organizations are likely to gain more status as a result of the organization's preceding status level. Consequently, organizations with high status are likely to have stable or rising status. Moreover, if an organization is perceived to be declining status, it is likely to fall out of favor quite rapidly. Because changes in status will influence the resources an organization acquires, the resulting changes in status are not likely to be linear. That is, there is an asymmetry in changes in organizational status. It takes considerable time and effort to establish and maintain high status for an organization. However, when an organization is losing status, the decline can be quite rapid. When an organization is losing status, its quality is likely to be perceived as declining (one way to quickly lose status is to have a widely reported fall in quality). When an organization has status that is on the decline, other organizations and people are going to be less willing to affiliate with the organization. The organization then has to affiliate with organizations and people of lower status, and this affiliation with lower status entities contributes to greater decline in organizational status. Thus, this asymmetry in the trend in status suggests that an initial decline in status may ultimately result in rapid erosion of the organization's status.

Relevant Research Literature

Podolny, J.M., & Phillips, D.J. (1996). The dynamics of organizational status. *Industrial and Corporate Change*, 5 (2), 453-471.

Cooper, Cary L. *The Blackwell Encyclopedia of Management*. Blackwell Publishing. Blackwell Reference Online. 24 August 2012.

<http://www.blackwellreference.com/public/book?id=g9780631233176_9780631233176>

3. Organizational Configuration: Questions & Summaries

Organizational configurations are structural caricatures of organizations that reflect idealized (pure) forms of how an organization might be designed or evolve.

Summary

This worksheet includes a number of questions about the structure and configuration of the organization. As people examine organizations, they often want to know if it resembles other kinds of organizations or if it fits a specific “type” of organization (e.g., mom and pop firm, multi-national conglomerate). Although “typing” organizations is fraught with problems, it is possible to consider how an organization’s structure might resemble certain “pure” forms or organizational configurations (Mintzberg, 1979). It is from Mintzberg’s (1979, 1983, 1989) conceptualizations and frameworks that many of the questions in this worksheet are derived. Most texts on organization theory also discuss the structure of organizations and how the structure influences the way organizations operate, function, and are characterized (e.g., Daft, 2007).

Mintzberg (1979) argues that organizations are created or emerge for purposes of coordinating human activity. Organizations also enable specification of duties and division of labor. At a high level, Mintzberg articulates a number of mechanisms by which the organization can coordinate (e.g., supervision, standardization). He also suggests that organizations face a critical decision regarding how power, authority, and responsibility are distributed (i.e., centralized and decentralized) within the organization (Mintzberg, 1979, 1983). Questions in this worksheet address the issues of how coordination is achieved in the organization as well as how much decision making authority is centralized in the organization. Again, questions concerning methods of coordination and the advantages and disadvantages of centralization and decentralization are covered in most discussions of organizations; particularly those related to organizational structure and organization theory (e.g., Daft, 2007; Mintzberg, 1979, 1983, 1989). Perhaps Mintzberg’s largest contribution to the analysis of organizational structure was his methodology for caricaturizing organizations. Mintzberg (1979, 1989) suggested that there is a set of “pure” forms of organizations (configurations) that represent efficient structures for dealing with the realities of the environment the organization faces and the systems and dynamics internal to the organization. Although organizations are unlikely to fit any one of these pure forms or configurations, as a hybrid of these configurations, the organization is likely to resemble certain features of organizational structure and incorporate the resulting operations and functioning. Several of the questions in this worksheet ask for judgments about how much the organization under analysis resembles the different organizational configurations (i.e., pure forms).

As a consequence of organizations having certain (hybrid) forms or configurations, issues pertaining to distribution of decision making authority and influence on the way the organization operates and functions also arise. As mentioned earlier, the degree that power and authority to

influence is centralized or decentralized is a critical feature of organizations (Mintzberg, 1979, 1983). Therefore, a number of questions on this worksheet attempt to identify the location of power and authority to influence within the organization. In general, this is approached by asking questions about the degree to which different components of the organization can make things happen in the organization. Mintzberg (1983) addresses issues of power in and around organizations, but the topics of power, influence, and politics in organizations is addressed by most textbooks on organization theory (e.g., Daft), organizational behavior (e.g., Wagner & Hollenbeck, 2009), management (e.g., Hellriegel, Jackson, & Slocum, 2007) and leadership (e.g., Yukl, 2013).

Relevant Research Literature

Daft, R.L. (2007). *Organization theory and design* (9th ed.). Mason, OH: Thomson South-Western.

Hellriegel, D., Jackson, S.E., Slocum, J.W. (2007). *Managing: A competency-based approach* (11th ed.). Boston: Cengage Learning.

Mintzberg, H. (1979). *The structuring of organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Mintzberg, H. (1983). *Power in and around organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Mintzberg, H. (1989). *Mintzberg on management*. New York: Free Press.

Wagner, J. & Hollenbeck, J.R. (2009). *Organizational behavior*. New York: Routledge.

Yukl, G.A. (2013). *Leadership in organizations* (8th ed.). Englewood Cliffs, NJ: Prentice-Hall.

Q1: Centralization or Decentralization of Power

Where in the organization does the power for decision making reside?

Response Scale: At a single point; in the hands of one person at the top of the organization –
Throughout all levels of management and also the workers providing the goods or services

Summary

In discussing centralization and decentralization within an organization, Mintzberg is referring to the extent to which decision making authority rests within a single individual or point in the organization (centralized) or whether that authority is distributed across multiple individuals or points in the organization (decentralized). Decentralization is often, but not always, associated with the size of the organization. As organizations grow larger, increasing in the breadth, depth, and/or geographic distribution of activities performed; there is generally a compelling need to decentralize. The amount of and level of information to be managed and acted upon by a single decision maker becomes overwhelming; and in order to maintain effectiveness and efficiency, that decision making power is delegated across various individuals in the organization. This decentralization can be vertical (i.e., down the chain of command), horizontal (more with staff managers and analysts, and outside the line structure), or both. Vertical decentralization generally involves the executive and command functions of the organization as well as the middle management. Alternatively, horizontal decentralization generally refers to substantial involvement of lower level and staff members in the decision process. Hence, there are many forms of decentralization that can occur in organizations.

Understanding the degree to which decision making is decentralized and the nature of that decentralization may help uncover strengths and weaknesses in that organization's decision making structure (e.g., relating to the time it takes to make decisions, access to timely/accurate information on which to base the decisions, feedback loops, interpretation of directives as they filter down through the organization, etc.). It may therefore facilitate targeting of behavioral influences for specific decisions and outcomes within the organization.

Relevant Research Literature

Mintzberg, H. (1993). *Structure in Fives: Designing Effective Organizations* (Chapter 5). Englewood Cliffs, NJ: Prentice-Hall.

Mintzberg, H. (1979). *The Structuring of Organizations: A Synthesis of the Research* (Chapter 11). Englewood Cliffs, NJ: Prentice-Hall.

Q2: Coordination Mechanisms

Select the highest level of coordination the organization typically uses to coordinate its activities. (1 is the lowest, 5 is the highest)

Response Scale: Members coordinate through informal communication (no direct supervision)

- Organization ensures that members performing a given function produce the same outputs

Summary

Mintzberg argues that organizations exist for the purpose of coordinating among individuals. He asserts that an organization's members coordinate their work through one or more of five mechanisms. These include *mutual adjustment*, *direct supervision*, *standardization of processes*, *standardization of outputs*, and *standardized skill sets*. In very informally organized (organic) organizations, the rank and file can coordinate through informal mutual adjustment. As the organization grows and a command structure emerges with an accompanying middle management, direct supervision may be necessary as a coordination mechanism. As the work becomes more complex and elaborate, coordination may be achieved via standardization of processes performed by the members, standardization of outputs, or by standardization of skill sets among the members. As a general rule the more informal and non-bureaucratic an organization, the more adaptable it is to a dynamic or unstable (unpredictable) work environment. Conversely, in complex but stable work environments, efforts to standardize tend to facilitate consistency and efficiency.

A potential organizational weakness may exist if the organization's coordination mechanisms are not well-suited to its environment (e.g., if a highly bureaucratized & standardized organization suddenly finds itself in a highly dynamic operational environment.)

Relevant Research Literature

Mintzberg, H. (1993). *Structure in Fives: Designing Effective Organizations* (pp. 4-12, pp 137-140). Englewood Cliffs, NJ: Prentice-Hall.

Mintzberg, H. (1979). *The Structuring of Organizations: A Synthesis of the Research* (Chapter pp. 1-12). Englewood Cliffs, NJ: Prentice-Hall.

Q3: Simple Bureaucracy

The organization is characterized as being informally structured, with a single powerful individual who is in charge of everything--(i.e., tends to be autocratic in nature)

Response Scale: Does not apply at all – Strongly applies

Summary

This question addresses the extent to which the organization under consideration reflects one of the “pure” configurations of organizations described by Mintzberg: simple bureaucracy. An organization of this nature is often coordinated in an informal fashion, often by a single individual who started the organization (this is also known as a simple structure or the entrepreneurial organization). This type of organization is often run personally by a single individual, who exerts total control over the organization. There are rarely other individuals with executive authority in the organization. Hence, the strong leadership of the organization can be viewed as autocratic. Because this is a simple organizational structure, it has little of the structure associated with larger and more bureaucratic organizations. Often these organization have few rules, are small, and all of the members report directly to the sole (or few) executives. The mom-and-pop company and start-ups are prototypic examples of these kinds of organizations, as are many clubs, religions, or gangs as they are initially being formed. Most developing organizations appear as simple bureaucracies in their early years, but some small organizations remain in this configuration.

It is important to note that few organizations under consideration will be true examples of these pure configurations; most organizations are hybrids of the different organizational configurations.

Relevant Research Literature

Mintzberg, H. (1979). *The Structuring of Organizations: A Synthesis of the Research* (Chap. 17). Englewood Cliffs, NJ: Prentice-Hall.

or

Mintzberg, H. (1993). *Structure in Fives: Designing Effective Organizations* (Chap. 8). Englewood Cliffs, NJ: Prentice-Hall.

and

Mintzberg, H. (1989). *Mintzberg on Management* (Chap. 7). New York: Free Press.

Q4: Machine Bureaucracy

The organization is characterized by work that is highly specialized and formalized. Decision making is concentrated at the top with clear lines of authority, and the work environment is highly complex and not prone to change.

Response Scale: Does not apply at all – Strongly applies

Summary

This question asks whether the organization under consideration reflects one of the “pure” configurations of organizations described by Mintzberg: machine bureaucracy. This organization is what is stereotypically called a bureaucracy, and best represents the progeny of Max Weber’s initial description of bureaucracy. However, this organization often exaggerates those features of a bureaucracy. It is very formal in its approach, it has a defined centralized authority structure with a clear chain of command, it is replete with rules and regulations which describe how the organization is meant to function and operate. The machine organization appears to be obsessed with control; the desire is to have the organization operate smoothly like a fine-tuned machine. The machine bureaucracy can often exist in stable environments with limited change so it can standardize the behavior of the members, the skills they require, and the processes they follow. An example Mintzberg used to illustrate the machine bureaucracy was a traditional, national postal service.

It is important to note that few organizations under consideration will be true examples of these pure configurations; most organizations are hybrids of the different organizational configurations.

Relevant Research Literature

Mintzberg, H. (1979). *The Structuring of Organizations: A Synthesis of the Research* (Chap. 18). Englewood Cliffs, NJ: Prentice-Hall.

or

Mintzberg, H. (1993). *Structure in Fives: Designing Effective Organizations* (Chap. 9). Englewood Cliffs, NJ: Prentice-Hall.

and

Mintzberg, H. (1989). *Mintzberg on Management* (Chap. 8). New York: Free Press.

Q5: Professional Bureaucracy

The organization is characterized by numerous rules to follow, but employees are highly skilled and free to make decisions on their own. Decision making is vested in the professionals who provide the key goods and/or services of the organization.

Response Scale: Does not apply at all – Strongly applies

Summary

This question asks whether the organization under consideration reflects one of the “pure” configurations of organizations described by Mintzberg: professional bureaucracy. In this organization, the skilled professionals who operate in the organization to produce the goods and services drive much of the organization’s structure. The productive members of the organization are generally well-trained in critical skills and have the sophisticated knowledge necessary to perform their tasks with limited supervision. These professionals execute procedures or programs of action that are difficult to learn, but have been standardized through training and socialization. Generally, there is some indoctrination or socialization of the trade or profession that accompanies training in the skills. The productive members of the organization work relatively independently of other organization members, yet have relationships with the clients to whom they provide a service. They also maintain relationships with professional associations. An example Mintzberg used to illustrate the professional bureaucracy was a general hospital. Authority in the professional bureaucracy is often decentralized and resides with the skilled professionals who perform the organizations required tasks (e.g., physicians and nurses). These professionals are provided much collective control over aspects of their work environment that affects them. They execute collective choice over activities and often exercise professional judgment for critical decisions related to their areas of expertise. It is important to note that few organizations under consideration will be true examples of these pure configurations; most organizations are hybrids of the different organizational configurations.

Relevant Research Literature

Mintzberg, H. (1979). *The Structuring of Organizations: A Synthesis of the Research* (Chap. 19). Englewood Cliffs, NJ: Prentice-Hall.

or

Mintzberg, H. (1993). *Structure in Fives: Designing Effective Organizations* (Chap. 10). Englewood Cliffs, NJ: Prentice-Hall.

and

Mintzberg, H. (1989). *Mintzberg on Management* (Chap. 10). New York: Free Press.

Q6: Divisionalized Form

The organization has separate autonomous units to deal with different products, services, or geographic regions, freeing top management to focus on large-scale strategic decisions.

Response Scale: Does not apply at all – Strongly applies

Summary

This question asks whether the organization under consideration reflects one of the “pure” configurations of organizations described by Mintzberg: the divisionalized form or the diversified organization. The critical feature of divisionalized/diversified organizations is that they have units that can be considered individual organizations. The organization has divisions that have control of most of the operations except for high-level strategic decisions, and thus are decentralized. These are quasi-autonomous units that are generally separate from the central administration at “headquarters,” although headquarters has specific performance expectations for results. These divisions of the organization are routinely grouped based upon markets, but may also be grouped clients, regions, services or products (which can also be considered markets). The diversification is often based on markets or market segments (e.g., high-end versus low-end consumers) which is how divisions in the organization arise. These divisions are loosely coupled with other divisions under a central administrative structure. The large corporations and conglomerates in America such as those on the Fortune 100 are often diversified and divisional in form (e.g., General Motors). Military units have divisional structures (e.g., U.S. Army). It is important to note that few organizations under consideration will be true examples of these pure configurations; most organizations are hybrids of the different organizational configurations. Moreover, some of the organizations under consideration for a profile or analysis may be defined as just one division of the larger organization.

Relevant Research Literature

Mintzberg, H. (1979). *The Structuring of Organizations: A Synthesis of the Research* (Chap. 20). Englewood Cliffs, NJ: Prentice-Hall.

or

Mintzberg, H. (1993). *Structure in Fives: Designing Effective Organizations* (Chap. 11). Englewood Cliffs, NJ: Prentice-Hall.

and

Mintzberg, H. (1989). *Mintzberg on Management* (Chap. 9). New York: Free Press.

Q7: Adhocracy

The organization operates in a highly informal, ad hoc fashion in which specialists work in flexible teams, coordinating with each other on various projects or missions. It is marked by decentralized authority.

Response Scale: Does not apply at all – Strongly applies

Summary

This question asks whether the organization under consideration reflects one of the “pure” configurations of organizations described by Mintzberg: the adhocracy or the innovative organization. This form of organization is distinctive from the other (bureaucratic) forms and unique in a variety of ways. As the term adhocracy implies, much of the structure of the organization is ad hoc in nature, informal, and less stable. As a consequence of these features, the organization can be more innovative. In this type of an organization, the critical members who get the work done form into units such as workgroups to address a specific task or project (e.g., task groups, project teams). Members of these ad hoc teams come from different backgrounds and have specific sets of skills and expertise that they can apply to the project or problem (i.e., multidisciplinary teams). Because of the informal nature of the organization, members often interact and link to other members who may be outside of the project team, generally to draw upon the non-team members’ knowledge and expertise. Authority in this organization is decentralized from a command structure, but is then located in the project team. Additionally, because of their informality and lack of stability, standardization is less likely, but innovation is then more possible. Examples of an organization which resembles an adhocracy would be a software development firm, a consulting company that focuses on complex problems requiring sophisticated knowledge, and some research and development organizations.

It is important to note that few organizations under consideration will be true examples of these pure configurations; most organizations are hybrids of the different organizational configurations.

Relevant Research Literature

Mintzberg, H. (1979). *The Structuring of Organizations: A Synthesis of the Research* (Chap. 21). Englewood Cliffs, NJ: Prentice-Hall.
or

Mintzberg, H. (1993). *Structure in Fives: Designing Effective Organizations* (Chap. 12). Englewood Cliffs, NJ: Prentice-Hall.
and

Mintzberg, H. (1989). *Mintzberg on Management* (Chap. 11). New York: Free Press.

Q8: Missionary Organization

The organization is characterized by beliefs, norms, and culture that dominate the actions and activities of members of the organization. These beliefs become the authority and all are subject to the influence of this ideological culture.

Response Scale: Does not apply at all – Strongly applies

Summary

This question asks whether the organization under consideration reflects one of the “pure” configurations of organizations described by Mintzberg: the missionary organization. This is an additional configuration that Mintzberg describes in his later work that was only briefly alluded to in his earlier conceptualization. However, missionary organizations are relevant to a number of organizations for which ideology is a critical, defining feature. [It might be helpful for understanding this organizational form to overview the discussion of ideology which is associated with another question under this tab.] There are a variety of organizations which have this missionary form. Religious cults with zealous and charismatic leaders are one example (e.g., Jim Jones and the Jonestown cult). At times, Apple computer company also had this missionary aspect with the reverence and adulation of Steve Jobs. The ideology of the missionary organization provides a powerful culture with norms that impact and influence most all aspects of the members’ organizational lives. Members of missionary organizations see the mission as the organization’s reason for existence. The members often self-select into the organization, and entry for organizational membership may be restricted. Full membership in the organization may require special and extensive socialization and indoctrination (note that many military units have these features). There may be traditions associated with missionary organization functions. Emblems, oaths, vows, and commitment ceremonies may be part of organizational membership (e.g., rings that only members of the organization are allowed to have and wear). Loyalty to the organization and its mission is implicitly assumed and expected; disloyalty is unacceptable and grounds for expulsion from the organization and other severe penalties. One can see that cults, gangs, and fraternities involve aspects of the mission organization, but other organizations pursuing self-defined noble causes exist as well (e.g., Greenpeace). Missionary organizations, because of the emphasis on mission and ideology, do not change much in terms of objectives, but may transform the strategies they pursue to achieve the mission. It is important to note that few organizations under consideration will be a true example of a pure missionary configuration. Most organizations are hybrids of the different organizational configurations and will have varying degrees of the missionary features.

Relevant Research Literature:

Mintzberg, H. (1989). *Mintzberg on Management* (Chap. 12). New York: Free Press.

Q9: The Political Organization

The organization is characterized by conflict; there are few unifying forces and authority is decentralized.

Response Scale: Does not apply at all – Strongly applies

Summary

This question asks whether the organization under consideration reflects an organization described by Mintzberg as the political organization, although it might be considered a disintegrating organization. The preeminent purpose of organizations is to coordinate the activities of the members in pursuit of organizational objectives. This aspect of organizations reflects collective interests over that of the self-interests of individuals. However, when organizations lose this focus on coordination for the collective purpose, the organization can become politicized. In these terms, politics then acts to counter the forces of coordination in an organization. Internal politics tends to diminish the smooth running nature of a well-tuned organization. A political organization is one in which politics dominates the function of the organization. The conflict that results pulls members and units in the organization apart, resulting in organizational disintegration, disordering of efforts, and disorganization. With the replacement of traditional influences and forces in organization (e.g., authority, support, expertise, coordination) by politics, conflict and efforts to resolve it become critical features of the political organization.

Mintzberg states that politics in organizations are often reflected in what he calls games (e.g., empire-building game). These games often pit one person over another or others (e.g., lording game; whistle blowing game) or one group or unit over another (e.g., rival camps game; alliance-building game; young Turks game). It is important to note that these games often reflect actions that involve illegitimate influence rather than what are considered more legitimate influences in organization (e.g., authority, ideology, expertise). Consequently, political organizations do not reflect organizational functioning based on structure, but rather based on power and influence, and the pursuit of power in influence for self-interest. The emergence of politics in organizations arises along three dimensions that reflect how extensive conflict is in the organization: (1) conflict that is moderate or intense, (2) conflict that is confined to specific units or is pervasive across the organization, and (3) conflict that is brief or is enduring. The resolution of conflict that is intense, pervasive, and enduring may be the disintegration of the organization because its purpose for existing may have become lost. However, politics in organizations may also reflect a transition from one approach or ideology for the organization to another one that may be more effective (e.g., an insurgency). In this case, when the conflict is resolved, politics may diminish as a new approach emerges, and so may a new organizational form.

It is important to note that few organizations under consideration will be true examples of the pure or other configurations; most organizations are hybrids of the different organizational configurations. So, politics may play a role in many organizations, but in political organizations

the politics and resulting conflict is the defining feature of that organization (even if only temporarily).

Relevant Research Literature

Mintzberg, H. (1989). *Mintzberg on Management* (Chap. 13). New York: Free Press.

Q10: Strategic Apex

To what extent does the command and authority to make things happen in the organization reside among the top-level executives?

Response Scale: Not at all – To a very high extent

Summary

This question refers to the extent that the organization is dominated by what Mintzberg calls the strategic apex. The strategic apex consists of “those people who are charged with overall responsibility for the organization – the chief executive officer and any other top-level managers whose concerns are global.” “The strategic apex is charged with ensuring that the organization serves its mission in an effective way, and also that it serves the needs of those people who control or otherwise have power over the organization.” The individuals who make up the strategic apex have three sets of duties. (1) Direct supervision which includes “resource allocation, design of the organization structure, assignment of people and resources to tasks, issuing of work orders, and authorization of major decisions, . . .” In a sense, members of the strategic apex fill the role and perform duties “ensuring that the whole organization functions smoothly as a single integrated unit.” (2) “Management of the organization’s boundary conditions – relationships with the environment, being a liaison, spokesperson, negotiator,” etc. which involve relationships with external entities. (3) Development of the organization’s strategy which is how the organization is influenced by and influences its environment. The development of the organization’s strategy involves “the interpretation of the environment and development of consistent patterns of organizational decisions (strategies)” to deal with its environment such as organizational change, improvement projects, etc.

The strategic apex (as an organizational component) plays the most important role in many activities and the decision making that the organization pursues, as illustrated by the three sets of duties. Members of the strategic apex have great influence on the organization’s strategy, the delegation and decentralization of authority, the issuing of general commands that influence the organization’s goals and objectives, plans for achieving these goals, and the general outline of the ways in which these plans are executed. Hence, to understand the structure and function of an organization, it is important to understand the extent to which the strategic apex fills a critical role for overall responsibility of the global concerns of the organization.

Relevant Research Literature

Mintzberg, H. (1979). *The Structuring of Organizations: A Synthesis of the Research* (pp. 24-26). Englewood Cliffs, NJ: Prentice-Hall.

or

Mintzberg, H. (1993). *Structure in Fives: Designing Effective Organizations* (pp. 13-14). Englewood Cliffs, NJ: Prentice-Hall.

Q11: Middle Line

To what extent does the command and authority to make things happen in the organization reside with middle-level managers who exist between higher and lower levels of the organizational hierarchy?

Response Scale: Not at all – To a very high extent

Summary

Mintzberg's "middle line" component of an organization refers to a set of managers (in a business organization) or officers (in a military organization) who work at a level lower than the organization's leadership, but who have direct supervision over a set of subordinates. Often this group of individuals is referred to as "middle management". They are responsible for relaying overall direction from the leadership down to those at lower levels and also for passing feedback (e.g., performance information, intelligence) back up the chain to the leadership. The middle line managers have certain authority for planning and direction within the section of the organization for which they are responsible, and they also must coordinate with others at their own level in the organization. In larger organizations, there can be numerous hierarchical layers of middle management between the senior leadership and the lowest level line supervisors or officers. Depending upon the organization, the middle line can have a significant amount of power (e.g., autonomy to make tactical decisions, control budgets, and engage in new activities; which is generally consistent with a more decentralized organization) or very little power. Mintzberg views organizations with a large and/or powerful middle line that becomes a dominant component of the organization as being associated with the "divisionalized form" organizational configuration. The degree of power in the middle line, whether low or high, may have implications for potential avenues of influence into the organization.

Relevant Research Literature

Mintzberg, H. (1993). *Structure in Fives: Designing Effective Organizations* (pp. 14-15 and Chapter 11). Englewood Cliffs, NJ: Prentice-Hall.

Q12: Technostructure

To what extent does the command and authority to make things happen in the organization reside with specialists/technicians/analysts responsible for standardizing various aspects of an organization's activities?

Response Scale: Not at all – To a very high extent

Summary

This question refers to technostructure. Technostructure is a term Mintzberg uses to describe one of the components of the configuration of an organization. One can consider technostructure to refer to the members of the organization who organize the technology, processes, and operations of the organization (e.g., budget analysts, engineers, accountants). One might consider these to be the analysts, specialists, and technicians who have specialized knowledge and skills that impact the activities of others, how the organization adapts to environmental changes, planning of work processes, effect stability or quality, etc. Members of the technostructure do not directly influence the “production” aspects of the organization (i.e., operating core), but do have strong impact on “production” through their efforts to stabilize and standardize work processes, skills, and quality of outputs. An example of a member of the technostructure would be the analyst at Lloyds of London who calculates the premium for an insurance policy to cover the unique risk of a potential client. The analyst wouldn’t sell insurance policies for an insurance firm (i.e., operating core), nor determine which kinds of insurance will be sold (i.e., strategic plans of the strategic apex). Yet, this analyst, because of his or her unique knowledge and expertise standardizes the risks of the policies that the firm offers. As a function of their positions in the organization and the influence they pursue (organizing change and stability), members of the technostructure “spend a good deal of their time in informal communication.”

The technostructure is an important component of the organization because of the unique contributions its members can bring to bear on an issue or problem. They typically can be considered as analysts who study some aspect of organizational functioning from a unique perspective related to an area of expertise. Because of their positions in the organization, members of the technostructure often attempt to exert control over the activities of others (e.g., computer systems engineers who are compelled to push requirements on organizational members to make the computer system secure). In this fashion, technostructure members try to control operations in the organization through standardization of various features (e.g., budget controls). To the degree that the technostructure dominates the activities of an organization you may see that the organizational atmosphere will be one of control, standardization (as a form of coordination), systemic changes, and a feeling that many “experts” who aren’t contributing directly to production seem to determine much of how the organization functions.

Relevant Research Literature

Mintzberg, H. (1979). *The Structuring of Organizations: A Synthesis of the Research* (pp. 29-31). Englewood Cliffs, NJ: Prentice-Hall.

or

Mintzberg, H. (1993). *Structure in Fives: Designing Effective Organizations* (pp. 15-16). Englewood Cliffs, NJ: Prentice-Hall.

Q13: Support Staff

To what extent does the command and authority to make things happen in the organization reside with individuals who provide indirect support services to the organization?

Response Scale: Not at all – To a very high extent

Summary

This question refers to the much ignored component of the organization termed support staff. Members of the support staff indirectly support the functioning of the operating core. Members of the support staff have unique activities they perform on behalf of the organization, but these activities are not directly related to the organization's mission (e.g., cook, groundskeeper). These support staff members may be organized in departments like other parts of the organization, but the members' expertise and effort only indirectly impact the core functions of the organization (which is why they are different from the technostructure). Because these functions are indirectly related to the organization, some of them have been outsourced recently (e.g., mailroom, employee benefits).

It is easy to underestimate the importance of support staff for organizational functioning. However, organizations develop these positions because they find them to be important or essential for effectively achieving the organizational goals. As organizations have become more complex or the activities of organizations have become more complex, the benefits of specific forms of support staff have become more apparent (e.g., legal department). If one takes Napoleon's comment that 'an army marches on its stomach' seriously, then it is clear that the support staff members who procure, cook, and deliver the army's food are essential for organizational success. It would be unwise for analysts who examine organizations to underestimate the influence of support staff on organizational functioning and operations.

Relevant Research Literature

Mintzberg, H. (1979). *The Structuring of Organizations: A Synthesis of the Research* (pp. 31-34). Englewood Cliffs, NJ: Prentice-Hall.

or

Mintzberg, H. (1993). *Structure in Fives: Designing Effective Organizations* (pp. 16-19). Englewood Cliffs, NJ: Prentice-Hall.

Q14: Operating Core

To what extent does the command and authority to make things happen in the organization reside with individuals who perform the basic work related to the production of the organization's goods or services?

Response Scale: Not at all – To a very high extent

Summary

This question relates to the operating core in the organization and how much influence this operating core has in determining how the organization functions. The operating core reflects “the operators who carry out the basic work of the organization.” These are the individuals who are responsible for producing the products and services of the organization (e.g., the input, processing, and output) as well as direct support tasks associated with production or transformation (e.g., floor supervision). The operating core is generally considered the “heart of the organization”. It is where individuals who do the primary “work” of the organization would reside (e.g., manufacturing floor workers; soldiers or airmen; teachers in schools). Members of the operating core serve four prime functions: (1) they secure the inputs that are part of the production process (production being a general term for what the organization produces even if that product is an educated student or software code), (2) perform the activities that transform the inputs into outputs, (3) find and perform the means for distributing the outputs to the desired clients, (4) provide direct supervision to the other three functions (e.g., monitor the flow of inputs, maintain equipment).

Organizations can differ widely on how much the members of the operating core dominate the influence processes in an organization. If the operating core comprises a large portion of an organization and there is limited administration or command structure, then issues related to the operating core play a prominent role in the organization’s functioning and operations. As an example, a printing firm that has a skilled and unionized workforce would be susceptible to many problems if the operating core were to go on strike or have some other work stoppage.

Relevant Research Literature

Mintzberg, H. (1979). *The Structuring of Organizations: A Synthesis of the Research* (p. 24). Englewood Cliffs, NJ: Prentice-Hall.

or

Mintzberg, H. (1993). *Structure in Fives: Designing Effective Organizations* (pp. 12-13). Englewood Cliffs, NJ: Prentice-Hall.

Q15: Ideology

To what extent does the command and authority to make things happen in the organization reside in the organization's culture and ideology?

Response Scale: Not at all – To a very high extent

Summary

This question refers to the degree the organization's command structure is influenced by the ideology and culture of the organization. Ideology or culture here refers to the system of beliefs that members of the organization have about the organization ("richly developed and deeply rooted system of values and beliefs that distinguishes a particular organization from all others" Mintzberg, 1989, p. 221). Although the ideology is a potent force in the activities and perception of the organization, it is not a component of the organization as were those mentioned previously (e.g., strategic apex, operating core). For many organizations, this ideology can be considered a set of shared beliefs or perhaps norms that individuals have about the organization. The organizational research literature often does refer to this as organizational culture; however, Mintzberg sees ideology as having more of an ideological zeal about the organization and its activities. So, ideology goes beyond the traditional definition of organizational culture to reflect a richer, more robust, and more impactful set of beliefs that would influence the members of the organization as well as the actions taken on behalf of the organization. This ideology may be closely associated with a mission (e.g., Doctors without Borders) or creed. Additionally, organizations can reinforce this ideology by indoctrination and socialization. Many military organizations have this ideology, so do religious orders. The ideology is often expressed in stories or myths and traditions. Allegiance to an organization with strong ideology is often proudly displayed and is asserted with pledges or vows. The ideology commits organizational members to actions which reflect the beliefs, values, and norms which underlie the ideology. The ideology and cultural influences on organizations are quite profound. A person may not be considered a member of an organization if they do not fully embrace the beliefs and norms associated with the organization. If the person does not sufficiently reflect the ideology, they may not be allowed or considered for positions of responsibility in the organization. This ideology/culture often dictates how an organization will act in a set of circumstances (e.g., no Marine left behind). Because of this ideology/culture, the actions of an organization are constrained to those options specified by the ideology. No decision maker for the organization could make a choice that is in conflict with the ideology without great peril – and the

organization would be expected to act predictably because of the tenets of this ideology. As a consequence, organizations with strong ideology have this force that influences how the organization operates and functions.

Relevant Research Literature

Mintzberg, H. (1989). *Mintzberg on Management* (Chap. 12). New York: Free Press.

Organizational Subsystems

4.1 Administrative Control Subsystem: Overview

Administrative controls are the articulated operating procedures and regulating structures that guide the processes of the organization's routine activities

Summary

The “administrative control” subsystem refers to the articulated operating procedures and regulating structures that guide the processes of the organization’s routine activities. The primary purpose of the administrative control system is to govern the behavior of organizational members. Administrative controls are designed to compel members to behave in a manner that optimizes the productivity and efficiency of the organization in meeting its objectives. Typically, large organizations in stable working environments have expansive, bureaucratic administrative systems to ensure that the organizations’ work is coordinated, efficient, and performed to a defined standard. Smaller organizations and those that require innovation and rapid adaptation in dynamic environments benefit from looser administrative control mechanisms that afford some flexibility on the part of the members. Ineffective administrative control systems can lead to gross inefficiencies in the organization, poor performance, and poor morale among members. Generally speaking, organizations exert administrative control via “coordinating mechanisms” including mutual adjustment, direct supervision, and/or standardization (Mintzberg, 1993). Mutual adjustment relies upon simple, informal communication among organizational members to ensure that actions are supporting common organizational objectives. Direct supervision is a more formal but still a personal mechanism in which one member monitors, instructs and takes responsibility for other members’ actions. Standardization is a formal but impersonal mechanism intended to control the product or output of an organization. Standardization can be achieved with regard to processes (defined procedures members must follow), skills (defined skill sets or educations required for members), and/or outputs (defined, measurable standards for work products). The degree to which an organization employs one or more of these mechanisms varies based on numerous factors including size, geographic distribution, and the type of service or industry. However, Mintzberg (1993) asserts that in general, sufficient standardization can minimize the need for direct supervision or other forms of centralized control. Similarly, Montanari and Freedman (1981) suggest that when organizations adopt specific impersonal administrative control mechanisms such as specialization of job roles and formalization of processes and standards, they can effectively delegate decision authority to the specialists rather than relying upon centralized control.

Administrative control systems vary in their size and complexity based on the size and nature of the organization and the contingencies of the environment in which it operates. However, most follow a simple open-loop organizational control model that includes defining standards,

collecting measures, monitoring for deviations, diagnosing problems, and implementing corrective actions (Miner, Singleton, & Luchsinger, 1985.)

Often, discussions of administrative control systems in organizations focus on *bureaucratic* control. This is achieved through an organization's internal hierarchy that ensures that the visions, objectives and plans of top leadership are expressed and properly executed throughout the various levels of the organization. A supervisory hierarchy backed by articulated policies, procedures, job descriptions, work rules, and evaluations; ensures that members behave in a prescribed manner that will help achieve organizational objectives.

In smaller organizations, the administrative function is achieved via *clan* control. Clan control is characterized by a flattened organizational hierarchy and decentralized decision making, with fewer articulated rules and processes. Typically organizations start out using clan control mechanisms and move to bureaucratic control mechanisms as they grow larger in size. On occasion, an organization can move from bureaucratic control back to clan control if the bureaucratic control gets so tight as to overly restrict the flexibility of the organization to act efficiently and effectively.

Finally, when organizations are willing to outsource key functions, they accept some level of *market* control. Often, organizations realize that it would be too costly to build facilities, acquire tools, and hire and train skilled members to perform key functions related to organizational objectives. If these skills, facilities and processes are plentiful elsewhere, an organization can outsource the work and rely on market forces to ensure efficiency (e.g., they can request bids for goods and services and accept the lowest, qualified bid). In this case, they are relying on competition among potential vendors to ensure that they get the best product or service at the lowest price.

Organizations often struggle to maintain the right balance of administrative control to achieve efficiency while retaining flexibility. Where there is an imbalance, there is a potential vulnerability. If organizations lack sufficient control mechanisms to coordinate and conduct their work, their performance will likely be ineffective, inefficient, or both. If they exercise too much administrative control, they will likely be inflexible and ineffective in dealing with dynamic operating environments. If they rely too much on market control, they are vulnerable to disruptions/influences from external organizations. Any of these imbalances in an organization's administrative control system may signal a potential vulnerability that could be exploited.

Relevant Research Literature

General textbooks on management or organizational performance typically offer overviews of administrative control systems. Below are several good examples.

Hodge, B.J., Anthony, W.P., & Gales, L.M. (1996). *Organization theory: a strategic approach* (5th ed.). (Chapter 9) Englewood Cliffs, NJ: Prentice-Hall.

Miner, J.B., Singleton, T.M., & Luchsinger, V.P. (1985). *The practice of management: text, readings and cases*. (Chapters 4, 8) Richfield, OH: Bell and Howell.

Mintzberg, H. (1979). *The structuring of organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Mintzberg, H. (1993). *Structure in Fives: Designing Effective Organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Q1: Degree of Control

How tight versus loose is the administrative control system?

Response Scale: Extremely loose control – Extremely tight control

Summary

This question is concerned with how tightly an organization's administrative control system governs the behavior of the members. Some organizations have extremely tight administrative controls (e.g., "bureaucratic control") that prescribe in great detail the actions and/or outputs demanded of the members. Other organizations are controlled quite loosely (e.g., "clan control"), allowing members great freedom in the actions they perform and the outputs they provide in pursuit of organizational objectives. There is not a universal approach to administrative control that will be effective for all organizations. Rather, organizations tailor their administrative control systems to best perform under the internal and external contingencies they face (i.e., the size of the organization, its mission or purpose, its location and geographical distribution, the degree of diversification in its mission, the education level of its members, the stability or dynamism in its operating environment, etc.).

The organizational literature suggests that administrative control systems are put in place, in part, to minimize "agency" problems. Agency theory suggests that middle and lower level organizational members ("agents") may be motivated to act in ways that are counter to the goals of the organizational owners and leadership (the principals) (Hodge, Anthony, & Gales, 1996.) For example, acting on "human nature" principals would lead to maximizing how much agents work on behalf of the organization and minimizing how much they are paid. Conversely, agents would seek to do as little work as possible for the greatest amount of pay. Thus, agents and principals enter into "contracts", and these contracts define what behavior and/or performance is acceptable and expected. These contracts can take many forms. Contracts to control behavior are reflected in such things as specialized job descriptions, policies, rules and guidelines, processes, and formalized procedures. Contracts to control member output are reflected in such things as quotas and quality standards against which performance can be easily measured. These controls are accompanied by evaluation mechanisms (e.g., direct supervision, periodic inspection, performance reviews) and reward and punishments systems (e.g., financial bonuses, promotions, demotions, restricted freedoms, termination) to monitor behavior/outcomes and to enforce the contract.

There is a significant financial cost to implementing extensive administrative control mechanisms, and organizations typically implement these to the extent necessary to prevent greater agency costs (costs associated inefficient member performance). In cases where desired behavior is difficult to articulate and measure, or where good performance relies upon members having decision latitude and flexibility, tight bureaucratic control mechanisms are costly, unnecessary and disruptive. Conversely, in organizations where behaviors can and must be

explicitly prescribed to ensure quality outcomes, especially when the cost of substandard performance is high, tight administrative control may be imperative. It is also important to recognize that the degree of administrative control that an organization exercises on its members changes over time as the situations and conditions facing the organization change.

An administrative control system that is poorly implemented or one that is too tight or too loose for an organization's operating environment poses a vulnerability to the organization.

Performance will suffer when the control system is overly restrictive, limiting the ability of members to act appropriately to unexpected or dynamic situations. Performance will also suffer if control systems lack the structure to ensure that all aspects of the organization are performing in an efficient, coordinated manner. Both of these shortfalls can result in procedural/process inadequacies and inefficiencies; however, they can also impact the morale of the members.

Members who feel they are being overly controlled or those who feel have too little structure in their positions can become disgruntled with the organization, and can in turn, behave in dysfunctional ways.

Relevant Research Literature

General textbooks on management or organizational performance typically offer overviews of administrative control systems. Below are two good examples.

Hodge, B.J., Anthony, W.P., & Gales, L.M. (1996). *Organization theory: a strategic approach* (5th ed.). (Chapter 9) Englewood Cliffs, NJ: Prentice-Hall.

Miner, J.B., Singleton, T.M., & Luchsinger, V.P. (1985). *The practice of management: text, readings and cases*. (Chapters 4, 8) Richfield, OH: Bell and Howell.

Q2: Degree of Member Involvement

To what degree is the administrative control system imposed (autocratic) on organizational members or are the members involved (democratic) in the administrative control system?

Response Scale: Very often imposed upon members – Very often involves members

Summary

This topic is concerned with the degree to which organization members who are controlled by the administrative system have input into the design and implementation of that system. Member involvement can impact both the *effectiveness* of the administrative control system and the *acceptance* of the system by the organization's members.

Administrative control systems are designed to control members' behavior and/or the outcomes of their behavior. They are designed to counter the negative effects of "agency", wherein the goals of the member and the goals of organizational leadership are not necessarily aligned.

Outcome-based controls have a number of advantages. The degree of performance is typically objective and unambiguous (e.g., one can count the number of units produced in an eight hour shift), and rewards can be directly tied to these measurable outcomes (e.g., the more a sales a person makes, the more commissions the person earns). Outcome controls act to align the goals of the member (e.g., financial gain) with the goals of the organizational leadership (e.g., productivity). The more productive the member is (which is good for the organization), the more he/she benefits personally. For these reasons, members subject to this type of control are often self-motivated and require less direct supervision. *Behavior*-based controls are employed when desired outcomes cannot be easily defined or measured. Therefore, behavior is prescribed (via rules, policies, processes, procedures) with the intent that the behavior will result in meeting organizational objectives. Members are evaluated based on their adherence to the prescribed behaviors more than on the outcome of their work. Both of the outcome- and behavior-based control mechanisms are more prevalent in large bureaucratic organizations than in clan organizations where members might be more motivated by shared beliefs and a common vision. With either approach, members often prefer to be involved in the design of the administrative control system by which they will be evaluated. This involvement enables them to "bargain" on aspects that are critical to their happiness and success in the organization. For example, in outcome-based control systems, they might want to have input into quota levels they are to achieve. They may feel that, without their input, organizational leadership would set unrealistic or unachievable performance standards, which would prevent the member from ever attaining valuable rewards (e.g., performance bonuses). Members subject to behavior-based controls also tend to want a voice in determining the behaviors that they are expected to perform. Often, especially in complex technical environments, members feel they are closer to the work than those administrators who prescribe the behaviors; and therefore the members feel that they are better qualified to develop processes and procedures that increase both productivity and

satisfaction. Often, they are right. Many organizations welcome members input on improving processes (e.g., improving safety, increasing assembly line speed, reducing waste) and reward those employees whose ideas get implemented.

A potential vulnerability arises when members wanting to be involved in the design of administrative controls are denied that form of bargaining. They may become dissatisfied, disgruntled, and less loyal to the organization. Miner, Singleton and Luchsinger (1985) point out that members can react quite negatively to control systems and engage in dysfunctional behavior including over compliance with rules (acting well beyond the intent of the rule), overt resistance to the rules, or even sabotage of the system by introducing erroneous data. This dysfunction is more likely to occur when members feel the controls are imposed upon them by less knowledgeable administrators than when the members are involved in the development of the control system.

Relevant Research Literature

General textbooks on management or organizational performance typically offer overviews of administrative control systems. Below are two good examples.

Hodge, B.J., Anthony, W.P., & Gales, L.M. (1996). *Organization theory: a strategic approach* (5th ed.). (Chapter 9) Englewood Cliffs, NJ: Prentice-Hall.

Miner, J.B., Singleton, T.M., & Luchsinger, V.P. (1985). *The practice of management: text, readings and cases*. (Chapters 4, 8) Richfield, OH: Bell and Howell.

Q3: Responsibility for Enforcing Rules

How much responsibility is the administrative control system afforded for applying and enforcing “rules”?

Response Scale: Almost no responsibility – Almost complete responsibility

Summary

This topic involves the degree to which the administrative control system is enabled to closely monitor and enforce stated organizational processes and output standards. Administrative control systems are designed to control either the behavior (processes) of members, the organizational products or services (outputs), or both. This helps ensure that the product or service being delivered by an organization is optimized to meet organizational goals and objectives. Deviations from desired behaviors or desired product outputs result in inefficiencies and other detriments to the organization, so administrative control mechanisms are put in place to prevent these deviations, detect them when they do occur, and mitigate their impact. The degree to which these mechanisms are monitored and enforced impacts both their cost and their effectiveness.

Administrative control systems carry a cost. Organizational resources must be devoted to the monitoring, prevention, and correction of deviations from desired actions and outcomes. Within any organization, there is a point at which implementation of increased administrative control will result in diminishing returns. That is, the cost of tighter controls will be higher than the cost of the potential deviations they are meant to protect against. These direct costs may also be accompanied by indirect costs resulting from lowered morale when members feel they are being “micro-managed” or not trusted to perform their roles. Therefore, organizations seek to optimize their administrative control systems to achieve the most cost-effective level of control.

Often organizations will attempt to achieve a cost-benefit balance in the administrative control system by manipulating the level to which rules are *enforced*. That is, while organizations may set standards and rules for *desired* behaviors and outcomes to encourage ideal behavior from members, they may limit the administrative control system’s ability to fully enforce them. Most business organizations, for example, have stated rules against employee use of company phones, copiers, and computers for conducting personal business. In reality, however, the administrative system’s responsibility and authority to strictly enforce this policy is limited. Organizations will typically act only if the violation is repeated and/or egregious (e.g., repeated international calls, extensive on-line shopping during the workday), and it severely hampers the productivity of the employee or puts the organization at financial risk. In other words administrative controls are often enforced selectively based on the cost-benefit ratio of enforcement.

When the cost of a failure is tremendously high, such as loss of human life (e.g., manned space flight, military and commercial aviation, nuclear power), administrative control systems are given more responsibility for tight enforcement. A single catastrophic failure could seriously threaten the organization. Therefore, production specifications are rigorous, procedures are exhaustive and detailed, and both processes and products are closely monitored and enforced. In

smaller, less critical organizational environments, or where output quality could not be easily measured (e.g., a local flower shop), such tight administrative control and enforcement would be unnecessary and not cost-effective. In this case an informal, “mutual adjustment” form of coordination and control would be much more appropriate.

Potential vulnerabilities exist when an organization’s administrative control system is poorly suited to the production or transformation it is intended to control (e.g., an organization that has loose administrative control enforcement mechanisms but very high costs of production/transformation failures, or an organization that has overly restrictive and enforced control mechanisms but operates in a dynamic environment where creativity and flexibility are essential to succeed.) Moreover, problems will arise when those assigned responsibility for enforcing the rules do not know and understand the processes being followed, the requirements of the desired outcomes, or why the processes and specified outcomes are being pursued. Additionally, if those assigned responsibility for enforcing the rules are not given the authority to actually enforce the rules, then their efforts are wasted to a degree.

Relevant Research Literature

Hodge, B.J., Anthony, W.P., & Gales, L.M. (1996). *Organization theory: a strategic approach* (5th ed.). (Chapter 9) Englewood Cliffs, NJ: Prentice-Hall.

Mintzberg, H. (1993). *Structure in Fives: Designing Effective Organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Montanari, J.R., & Freedman, S.M. (1981). Organization structure and administrative control: A question of dimensionality. *Journal of Management*, 7: 17.

Miner, J.B., Singleton, T.M., & Luchsinger, V.P. (1985). *The practice of management: text, readings and cases*. (Chapters 4, 8) Richfield, OH: Bell and Howell.

Q4: Breadth of Administrative Control

How narrowly or broadly are administrative controls applied throughout the organization?

Response Scale: Extremely narrow responsibility – Extremely broad responsibility

Summary

This topic involves the degree to which an organization's administrative control system controls the behaviors and outputs of members across multiple organizational functions and units.

Organizations are often divided into a number of functional units (e.g., sales, finance, marketing, manufacturing, distribution). Each of these units may be further organized into sub-units (e.g., foreign sales and domestic sales). This question is aimed at understanding the degree administrative control is applied across all components of an organization or whether it is tailored to control specific aspects of organizational functioning more tightly than others.

Further, it should lead the analyst to consider whether the breadth of control helps or hinders various units in the organization.

Administrative controls, broadly speaking, are put in place to achieve organizational efficiency. There is a cost/benefit ratio associated with administrative control. Typically, organizations will put administrative controls (e.g., supervisory chains, regimented procedures, quality and performance audits, adherence to standards) in place when the cost of implementing the controls is less than the cost of poor performance or poor quality that would result from the lack of such controls. In the literature, this is often discussed under the category of organizational “transaction costs”.

Sometimes, the cost of the administrative oversight for some function is so high that the organization chooses to acquire that function from *outside* the organization. This is especially true when the good or service in need is readily available in the free market at a competitive price. In this sense, the organization is accepting a degree of market control that lies outside the organizational boundaries. It is making a conscious decision to constrain the breadth of administrative control.

Within organizational boundaries, a typical organization has units (e.g., groups, branches, divisions, departments) that perform different functions. Because the nature and output of these functions can vary widely, the cost of implementing administrative controls and the cost of failing to implement administrative controls can also vary widely within the organization. Thus, to maintain optimum efficiency, organizations may tailor administrative control measures to their individual functional units. For example, an automotive company might use very different control mechanisms within its manufacturing division (e.g., strict adherence to established processes and approved standards) than it would its marketing division (fewer procedures, more flexibility, performance-based rewards.) Similarly, a military organization's special operations units may be subject to different administrative controls than the general units (e.g., they may be afforded more decision making autonomy in combat situations) due to the fact that they are often isolated behind enemy lines. Mintzberg (1993) argues that organizations that focus on innovation

(“adhocracies”) have selective decentralization both vertically and horizontally. For these organizations broad, uniform administrative control systems would be far from ideal. Vulnerabilities associated with the breadth of administrative control arise when the control mechanisms in place (or the absence of control mechanisms) do not fit well with the organizational function being performed. This might occur when an organization takes a “one size fits all” approach to administrative control; for example, when an organizational component that requires flexibility and autonomy to react quickly in a dynamic environment is hampered by excessive organization-wide controls that limit their ability to make rapid decisions and take rapid action. In this instance a control system applied uniformly and broadly across all organizational components, may be harmful. Conversely, when a rapidly growing organization lacks the organizational controls to ensure that all members are moving in the same direction toward the same objectives, great inefficiencies can result, thereby weakening the organization. In this case, a broad administrative control system would have a positive, integrating influence. It is important to understand the degree to which the breadth of the administrative control system is a strength or vulnerability to units of interest within the organization.

Relevant Research Literature

General textbooks on management or organizational performance typically offer overviews of administrative control systems. Below are good examples.

Hodge, B.J., Anthony, W.P., & Gales, L.M. (1996). *Organization theory: a strategic approach* (5th ed.). (Chapter 9) Englewood Cliffs, NJ: Prentice-Hall.

Mintzberg, H. (1993). *Structure in Fives: Designing Effective Organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Miner, J.B., Singleton, T.M., & Luchsinger, V.P. (1985). *The practice of management: text, readings and cases*. (Chapters 4, 8) Richfield, OH: Bell and Howell.

Q5: Depth of Administrative Control

How deep or superficial is the administrative control system's responsibility for rule application in the organization?

Response Scale: Extremely Superficial Responsibility – Extremely Deep Responsibility

Summary

This topic involves the depth to which the administrative control system penetrates both the organizational hierarchy, the day to day actions of the individual members, and the outcomes of their work.

Administrative controls protect against unwanted behaviors and encourage desired behaviors and outcomes from the organization's members. They are focused on minimizing "agency costs", which are incurred when organizational members act in self-serving ways (e.g., minimizing effort, taking shortcuts) that don't support the organization's objectives. Administrative control mechanisms can be applied to both groups and individuals and tend to follow the same general model. Miner, Singleton, and Luchsinger (1985) offer a simple, open-loop organizational control model with the following processes: requirements are identified, standards of performance are defined, and performance is measured against these standards. If a deviation from a performance standard is identified, causes are diagnosed and corrective action is implemented.

In considering the *depth* of administrative control, we are concerned with the level at which the control processes are implemented (e.g., to groups, to individuals), and also the manner by which they are implemented within the organization. The type of coordinating mechanisms an organization employs and the degree to which those mechanisms control the day to day activities of the members is typically a function of the size of the organization, its organizational objectives, and the environment in which it operates. In large organizations where informal, mutual coordination becomes untenable, and in organizations where the performance of individual members is critical to the success or failure of the organization, deep-reaching control and coordination mechanisms are often put in place. For example, large military organizations often have extensive administrative control systems. Members have numerous rules to follow that reach into various areas of their lives. They take oaths, they have extensive procedure and instruction sets to follow, they are told when and where to report, they are told how to interact with superiors, they are told how to dress, and their performance is continuously being evaluated to make determinations regarding promotion, demotion, or even discharge. Contrast this with a professional organization where coordination may be achieved through informal, mutual adjustment. Individual members have great freedom and autonomy and are subject to few, if any, stringent control mechanisms.

Organizational vulnerabilities might occur when administrative control is applied too deeply within an organization to be efficient. In this case the actual cost of implementing extensive controls may be higher than the behaviors or outcomes they are intended to protect against. This is often seen in large, established organizations with extensive bureaucracies that make it difficult for the organization to react to rapid changes in the environment. Administrative control

that is *perceived* by members to be too deep can also be a vulnerability. Miner, Singleton, and Luchsinger (1985) point out that poorly implemented systems can send a message to members that they are not to be trusted. This, in turn, can lead to dysfunctional behavior among members including rigid over-compliance, overt or covert resistance, and introduction of invalid data into the control processes (a form of sabotage).

Relevant Research Literature

General textbooks on management or organizational performance typically offer overviews of administrative control systems. Below are good examples.

Hodge, B.J., Anthony, W.P., & Gales, L.M. (1996). *Organization theory: a strategic approach* (5th ed.). (Chapter 9) Englewood Cliffs, NJ: Prentice-Hall.

Mintzberg, H. (1993). *Structure in Fives: Designing Effective Organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Miner, J.B., Singleton, T.M., & Luchsinger, V.P. (1985). *The practice of management: text, readings and cases*. (Chapters 4, 8) Richfield, OH: Bell and Howell.

Q6: Does the system interfere with organizational activities?

To what degree does the administrative control system interfere with important activities?

Response Scale: Almost no interference – Almost complete interference

Summary

This topic is concerned with the degree to which the administrative control system gets in the way of executing the organizational mission. To the extent that an administrative control system interferes with important organizational activities, it poses a problem or vulnerability to the organization. Such interference is most often *direct*, where excessive control mechanisms impact the timing and/or quality of the production or transformation product (e.g., too many layers of approval authority leading to slow organizational reaction times and poor organizational adaptation in dynamic environments). However, administrative control problems can also be *indirect* (e.g., a bonus structure could be perceived as unfair and may negatively impact the motivation of the members). Finally, a *lack* of administrative control could interfere with organizational performance (e.g., a poor division of responsibilities could lead to task duplication and even unwanted internal competition).

As discussed by Miner, Singleton and Luchsinger (1985), effective administrative control systems have a set of common characteristics. First, they are *specifically tailored* to the people and processes they control. “Generic” controls applied too broadly across an organization will likely be poorly fitted to certain subsets within the organization. Good controls are also *flexible*. Many organizations work in highly dynamic environments in which change, inside the organization and out, is constant. Thus, controls must be flexible enough to evolve as necessary to remain effective. Controls must also *focus on critical points* in the organization’s work (e.g., inspection and approval of final plans before an assault, inspection of final products before delivery). Failure to control behaviors and outcomes early in the process can create costly problems down the line. Similarly, control mechanisms must allow for *timely* assessment and correction, permitting deviations to be corrected before they become a major problem. Next, an effective administrative control mechanism must be *clear and simple*. Those who apply them and those who are controlled by them must have clearly articulated metrics and behaviors to follow. They must also be *cost-effective* for the organization. That is, at a minimum, it must cost the organization less to administer the effective control function than it would to have undesired behavior/outcome issues go unchecked. Finally, the administrative control system must be *suitable for corrective action*. That is, it is insufficient to simply identify problems in an organization’s production and/or transformation activities. The control system must provide feedback to enable the organization to take timely, corrective action to mitigate the problem and to help prevent it in the future.

A problematic administrative control system can occur when one or more of these important characteristics are absent. Weaknesses in any of these areas (e.g., controls that are inflexible, that are not tailored to individuals, that are complex and confusing, that are time consuming) typically result in organizational inefficiencies. Consequently, organizations with cumbersome

administrative control systems can be slow to act and react, and may therefore be vulnerable, especially when they operate in dynamic environments where flexibility and rapid reactions are required in order for the organization to succeed.

Relevant Research Literature

General textbooks on management or organizational performance typically offer overviews of administrative control systems. Below are two good examples.

Hodge, B.J., Anthony, W.P., & Gales, L.M. (1996). *Organization theory: a strategic approach* (5th ed.). (Chapter 9) Englewood Cliffs, NJ: Prentice-Hall.

Miner, J.B., Singleton, T.M., & Luchsinger, V.P. (1985). *The practice of management: text, readings and cases*. (Chapters 4, 8) Richfield, OH: Bell and Howell.

4.2 Command and Authority Subsystem: Overview

Command authority is the leadership, management, administration, chain of command, that moves individuals in the organization toward objectives

Summary

This subsystem is described as the leadership, management, administration, and chain of command that move individuals in the organization toward their objectives. As this statement highlights, the issues of command and authority reflect a number of topics relevant to running an organization. The command and authority subsystem also reflects the central elements of command and control in military domains. Mintzberg (1983) suggests that authority is a subset of power; the formal power that is vested in the position or office the person occupies. Authority then is the capacity to get things done by virtue of the position held. From power and the capacity of authority comes influence. If a person has authority and consequently gets things done by virtue of the position he/she holds, that person has influence. Power and influence are underlying psychological constructs associated with command and authority.

Nobel Prize winner Herb Simon (1997) argues that there are two things that manager's do: (1) they motivate subordinates and (2) they make decisions. These are two broad categories of activities that can be seen as encompassing other behaviors. Mintzberg (1973) suggests that managers fulfill a number of different roles. One involves *interpersonal* activities: interacting with subordinates, superiors, colleagues, and relevant individuals outside of the organization. Related to this is the role of *information-handling*. This involves acquiring, distributing, and processing information relevant to the manager's position. Another role is as a *decision maker*. Managers use the information that is gathered and then make command decisions that they motivate subordinates to implement. A fourth role is that of a *negotiator*. The manager may allocate resources or mediate disputes between different sections or elements of the organization. Additionally, managers may negotiate on behalf of the organization with outside entities.

Luthans (1988) found a similar pattern with a study of managerial activities (e.g., networking, communication, controlling), but he also emphasized the management of personnel as a critical activity for management effectiveness. All of these descriptive approaches to can be summarized as a set of management functions: (a) making decisions, (b) exchanging information, (c) building relationships, and (d) influencing people.

The theories of leadership have undergone changes in emphasis in the last century (Northouse, 2012; Yukl, 2013). Classic approaches to leadership focused on traits and behaviors. The leadership *trait approach* tried to find the trait or set of traits that made someone a great leader. This research never achieved its aspiration with no trait or set of traits found to be strongly predictive of great leadership. Other researchers tried to identify the *behaviors* that leaders would engage in that would make them effective. Although two common behavioral factors were identified (employee-focused or production-focused) these behaviors did not fully explain why some leaders were more effective than others. Eventually, leadership theorists came to conclude that a number of factors (contingencies) must be considered in relation to others to be able to

adequately describe leadership effectiveness. These contingencies included leader traits and behavior as well as the task being performed, the characteristics of the followers, the situation (e.g., organization, environment) in which the task is performed, and others. More contemporary approaches to leadership are fragmented and look to specific aspects of leadership (e.g., leading a diverse workforce) rather than an overall approach to leadership (Northouse, 2012; Yukl, 2013).

Relevant Research Literature

The research literature relevant to the Command and Authority subsystem shows up in various domains. The discussion above on authority is informed by Mintzberg (1983) and Katz and Kahn (1978), particularly Chapter 10. Command and authority also play a role in management, so a good management textbook can be useful (e.g., Griffin, 2012). It is also covered as a topic in organizational behavior textbooks (e.g., Wagner & Hollenbeck (2009)). Moreover, the general topic of leadership is quite relevant to command and authority. Northouse (2012) is a very readable survey of the literature on leadership and Yukl (2013) is another source which is slightly more conceptual, yet focused on leadership in organizations.

Griffin, R.W. (2012). *Management* (11th ed.). Mason, OH: South-Western Cengage Learning.

Katz, D., & Kahn, R.L. (1978). *The social psychology of organizations* (2nd ed.). New York: John Wiley & Sons.

Luthans, F. (1988). Successful vs. effective real managers. *Academy of Management Executive*, 2, 127-132.

Mintzberg, H. (1973). A new look at the senior manager's job. *Organizational Dynamics*, Winter.

Mintzberg, H. (1983). *Power in and around organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Northouse, P.G. (2012). *Leadership: Theory and practice* (6th ed.). Thousand Oaks, CA: Sage.

Simon, Herbert A. (1997). *Administrative Behavior: a Study of Decision-Making Processes in Administrative Organizations* (4th ed.). New York: Free Press.

Wagner, J. & Hollenbeck, J.R. (2009). *Organizational behavior*. New York: Routledge.

Yukl, G.A. (2013). *Leadership in organizations* (8th ed.). Englewood Cliffs, NJ: Prentice-Hall.

Q1: Reside in Top Level Executives

To what extent does the command and authority to make things happen in the organization reside among the top-level executives?

Response Scale: Not at all – Completely

Summary

Command and authority is generally thought to reside only in the top levels of the organization's administration. However, upon further thought, we realize this is not always the case. Command and authority to make things happen can be distributed throughout the organization (Mintzberg, 1983). The degree to which command and authority is localized in top management is generally thought of as *centralized* and the degree that command and authority is distributed elsewhere in the organization reflects *decentralization*. This question deals with the issue of centralization of command and authority.

It is important to realize that command and authority is not just one thing, but that it may cover various aspects of organizational functioning. Mintzberg (1983) suggests that centralized decision making occurs in forms such as (a) passing on information without having to go through others, (b) having the authority to provide advice, (c) having the choice in selecting alternatives, (d) authorizing the organization to engage in specific endeavors, and (e) having a course of action executed on their authority. For each of these, one could ask: *What decision powers are delegated down the “chain of authority”?*, and *How far down the chain of authority are these powers delegated?* If these decision powers are not delegated down the chain of command, then authority to make things happen would reside in the top levels of the organization. To the degree that these decision making powers are delegated down the chain of command, the authority to make things happen would reside elsewhere in the organization (i.e., authority would be decentralized).

Organizational theory (Daft, 2010) also considers issues of where the command and authority to make things happen resides in the organization. The issues of centralization and decentralization are a critical aspect of organizational functioning (Mintzberg, 1983). For understanding how an organization operates and functions, it is important to know where the authority and responsibility for deciding how things are going to happen in the organization is localized.

Organizational theory suggests that there is not one best way to centralize or decentralize authority. Different kinds of organizational configurations might be most effective depending on the nature of the work done in the organization, its size, the external regulation or controls on the organization, and its maturity (Mintzberg, 1979). So, an organization might have one type of centralized decision making for one set of executives, and a few years later it might have a different, more decentralized, decision making approach with the same (or different) members of the organization's executives.

There are limitations with centralization and decentralization in organizations. When an organization has a centralized authority structure, then it is not likely to be agile in its responses to changes in its environment. Top management generally is not aware of the daily issues

confronting the organization, so it is likely to be slow to respond even when the threat to the organization is a clear and present danger. Also, by the time the top management becomes aware of the situation, the information and details “on the ground” for the organization can already have changed, leaving management to respond to a situation that no longer exists as it did. Alternatively, a decentralized authority structure often lacks a cohesive focus to guide the whole organization. The different members or sections of the organization may only be aware of some of the information the organization needs to move toward its objectives; tunnel vision can develop among the different sections. Moreover, in both centralized and decentralized structures, those who are in charge of decision making or information dissemination may have their own agendas, be self-serving, or in competition with other factions. Because of these misguided efforts on the part of organization members, those in authority may not be able to properly guide the organization on its mission. Therefore, it is important to know who makes decisions in the organization and how those decisions are made.

Relevant Research Literature

The topics of centralization-decentralization of decision making authority are covered in Mintzberg (1983). Decisions about decentralizing authority are complex, so a good organizational theory (Daft, 2010) or management (e.g., Griffin, 2012) textbook can be useful to gain insights into the consequences of decentralization and centralization. Moreover, these topics are relevant to leadership issues. Northouse (2012) provides a very readable survey of the literature on leadership. Yukl (2013) is another source that is slightly more conceptual, yet focused on leadership in organizations.

Daft, R.L. (2010). *Organization theory and design* (10th ed.). Mason, OH: South-Western Cengage Learning.

Griffin, R.W. (2012). *Management* (11th ed.). Mason, OH: South-Western Cengage Learning.

Mintzberg, H. (1979). *The structuring of organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Mintzberg, H. (1983). *Power in and around organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Northouse, P.G. (2012). *Leadership: Theory and practice* (6th ed.). Thousand Oaks, CA: Sage.

Yukl, G.A. (2013). *Leadership in organizations* (8th ed.). Englewood Cliffs, NJ: Prentice-Hall.

Q2: Attempt to Influence External Entities

To what degree do those in command and authority attempt to influence external individuals and groups that have impact on the organization?

Response Scale: Not at all – Completely

Summary

The leaders, executives, and managers of an organization apply their command and authority powers to influence the goals, plans, and actions of the organization and its members. However, this question focuses on the degree to which those with command and authority powers in the organization attempt to influence other individuals and entities *outside* of the organization. These external entities can be (a) owners of the organization (e.g., stockholders), (b) clients, suppliers, and others who are economically tied to the organization, (c) the member associations (e.g., unions, trade groups), (d) interest groups (e.g., media, citizens), (e) competitors, partners, allies, or adversaries of the organization, or (f) government, trade, or profession regulatory agencies (e.g., EPA, American Medical Association). Those holding command and authority powers can attempt to influence these external entities to greater or lesser degree. By observing how those in positions of command and authority attempt to exert control over external organizations, we can make inferences about how they function and how those in power feel they are impacted and perhaps threatened by external entities and conditions.

Individuals with command and authority in an organization are also those most likely interact with external individuals and entities. Because of their command and authority powers, they can negotiate with these external entities and can best reflect the organization's interests while attempting to influence the external entities. Because of their capability to represent interests outside the bounds of the organization, those with command and authority powers can be considered "boundary spanners". Boundary spanners have important implications in the organizational science literature. They are individuals that the organization can appoint or rely upon to represent the organization's interests outside the organization. Boundary spanners with command and authority powers can negotiation on behalf of the organization and can imply or promise that the organization will take specific actions in an attempt to influence the external entities. For example, the chief financial officer can say that the organization will be buying back stock to make stockholders more satisfied with their rate of return. The chief negotiator for an organization can also tell the union that rather than comply with union demands, they will lock the union members out at the end of the contract. As the public faces for the organization, those with command and authority powers can also communicate to the media, interest groups, regulatory agencies, and others the positive activities the organization has taken and the future positive actions the organization will be pursuing (under the organization's preferred conditions). Attempts by those with command and authority powers to influence external individuals and entities are just one of the forms of influence in organizations (Mintzberg, 1983; Porter, Angle, & Allen, 2003). As mentioned above, the general direction of influence by those with command and authority power is to influence those below them (i.e., subordinates). However, it is

important to recognize that subordinates also influence their superiors in many ways. There is also lateral influence in which those with command and authority powers will try to influence their peers who similarly have command and authority powers. All these forms of influence reflect the important observation that those with command and authority powers expect, and are expected, to use their power to influence others inside the organization as well as external to the organization, which is the focus of this question.

Many organizations are subject to the potential influences of external organizations and aspects of the external environment surrounding the organization. Information about an organization can be gleaned by noting the external organizations the organization is attempting to influence. An organization may attempt this influence because it sees an opportunity that would make the organization stronger. Alternatively, an organization may also attempt to influence an external organization to limit or reduce potential threats to the organization which might weaken it or make it vulnerable to some other forces. Noting the particular external organization or the particular member(s) of the external organization that the organization is attempting to influence can inform an analysis as an indicator of how the organization perceives itself with regard to external organizations and what it is willing to do to change that situation.

Relevant Research Literature

Some of this discussion on external entities and influence upon them is informed by Mintzberg (1983). The notion of boundary spanning shows up in organization theory (e.g., Daft, 2010) and organization behavior (e.g., Wagner & Hollenbeck, 2009) textbooks.

Daft, R.L. (2010). *Organization theory and design* (10th ed.). Mason, OH: South-Western Cengage Learning.

Mintzberg, H. (1983). *Power in and around organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Porter, L.W., Angle, H.L., & Allen, R.W. (2003). *Organizational influence processes* (2nd ed.). Armonk, NY: ME Sharpe.

Wagner, J. & Hollenbeck, J.R. (2009). *Organizational behavior*. New York: Routledge.

Q3: Follows from Personal Control

To what degree does the command and authority in the organization follow from "personal control" (i.e., giving direct orders, allocating resources, giving guidelines and constraints for decisions, being able to review or repeal other's decisions)?

Response Scale: Not at all – Completely

Summary

Those with command and control powers can exercise their authority in a variety of ways. One way is through personal control. That is, those in command and authority positions can exert supervision, which is direct and personal. No intermediaries are involved in this form of command and authority (i.e., no other links in this chain of command). Mintzberg (1983) suggests four specific ways that those with command and authority can use personal control: (1) give direct orders to specific subordinates, (2) establish the parameters for the decisions subordinates are assigned to make, (3) conduct a direct review of the actions taken and decisions made by subordinates, and (4) allocate the resources that constrain the actions and decisions of subordinates. By using personal control within the chain of command in an organization, those with command and control authority are capable of leading, directing, administering, supervising and managing those aspects of the organization under their control.

The four categories of direct personal control reflect a variety of methods of supervision. When giving direct orders, a supervisor can specify exactly what the supervisor wants done, and can state expectations of what, when, how, where, and in what way the task or duty is to be accomplished. In this way, the supervisor can make sure that his or her expectations are fulfilled. In a similar way, the supervisor can also establish the parameters for the decisions delegated to subordinates. The supervisor provides guidelines as well as constraints that the subordinate should follow when making the delegated decision. If the supervisor fails to provide sufficient specificity, then the subordinate may not understand the parameters. This can be a problem if the supervisor also is not explicit about implicit guidelines (e.g., “But Sir, my decision was appropriate. You did not tell me it had to be an American firm.”). This example also illustrates that a key factor in command and authority through personal control is effective communication. A supervisor can also exert direct personal control within a range of levels of direct supervision. After assigning a task or decision to a subordinate, the supervisor might closely monitor the activity, or might withdraw to have more distant oversight. With this approach, the supervisor provides the subordinate with latitude in performing the assignment, but can still retain personal control by reviewing the end product of the assignment before it is implemented or executed. In this fashion, the supervisor can modify the final product of the subordinate’s actions, over-rule it, or substitute his or her own product for the one assigned to a subordinate. This issue also reflects the managerial dilemma of micro-managing or being too hands-off.

The supervisor’s allocation of resources to the subordinate is also a form of direct personal control. This is a powerful means of personal control because it constrains the plausible set of

activities and decisions a subordinate can pursue. Moreover, allocation of resources has the additional feature of being a reward or penalty for the subordinate's previous activities. Those who follow the supervisor's wishes and fulfill expectations may receive a larger allocation of resources to control while those subordinates who fail to meet wishes and expectations may have their allocations cut. By utilizing the allocation of resources as both enabling mechanisms and reward systems, supervisors can exert considerable direct and personal control over subordinates decisions and behavior.

The personal control aspects of command and authority provide supervisors with a way of exerting power to control and influence subordinates' activities and choices. This power can influence the subordinates to behave and decide in a manner that those in command and authority positions think are appropriate and consistent with management and organizational goals. Consequently, for key individuals in organizations, they often are influenced by their supervisor alone if their supervisor relies on personal control. The processes of influence may be limited for key personnel to their supervisors when it is based on personal control. This implies that there is no substitute for the supervisor and that the subordinate is guided by only one person.

There are several important issues with personal control. It can be exercised in an arbitrary fashion. Consequently, it can also be implemented in a coercive fashion, which can produce antagonism. It also can occur from the position of formal direction, which does not provide for subordinate involvement or participation. To the degree it focuses on the control of subordinates rather than the personal aspects of rational appeals and persuasion, it can generate reluctance and even rebellion on the part of the subordinates subjected to personal control without the benefit of personal persuasion. There are other issues of personal control. It requires communication of expectations with an appropriate tone and with sufficient detail. Supervisors also have to negotiate being too hands off with subordinates on tasks that might have critical consequences for the organization as well as engage in too much micro-management so that subordinates perceive that they have limited involvement or commitment to the actions and decisions they are asked provide for the organization. Nevertheless, personal control is one clear approach by which those in positions of command and authority can directly influence the actions and decisions of subordinates.

Relevant Research Literature

This discussion of personal, direct control follows from Mintzberg (1983) and is also informed by Mintzberg (1979). More general discussions of the ways of exercising command and authority in organizations will be found in general textbooks on leadership (Northouse, 2012; Yukl, 2013).

Mintzberg, H. (1979). *The structuring of organizations*. Englewood Cliffs, NJ: Prentice-Hall.
Mintzberg, H. (1983). *Power in and around organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Northouse, P.G. (2012). *Leadership: Theory and practice* (6th ed.). Thousand Oaks, CA: Sage.

Yukl, G.A. (2013). *Leadership in organizations* (8th ed.). Englewood Cliffs, NJ: Prentice-Hall.

Q4: Follow from Bureaucratic Control

To what degree does the command and authority in the organization follow from "bureaucratic control" (which guides behavior of subordinates in general-- such as behavior formalization, standardization of work and outputs)?

Response Scale: Not at all – Completely

Summary

Command and authority in organizations can often be used to influence the activities of the organization's members through what Mintzberg (1983) termed "bureaucratic control". In this form of command and authority, it is the impersonal standards that are part of the organization's bureaucratic structure that influence the actions and decisions of organizational members.

Bureaucratic control is not a one-time attempt to influence the activities of organizational members, but it is constant and it occurs for a wide range of activities that organizational members may pursue. Mintzberg (1979, 1983) suggests that bureaucratic control occurs with regard to three kinds of standards: (1) standards regarding the content of the work activities, (2) standards for the work products and outputs, and (3) standards for the level of member talents that are required by the organization. These different standards can be imposed on the organization's members and their activities as a set of constraints and guidelines as a structural (bureaucratic) component of the command and authority system.

Bureaucratic control standardizes the content of the organization's members' work activities through "formalization processes" (Mintzberg, 1983). Formalization involves specifying the rules (e.g., manual), procedures (e.g., standard operating procedures), and job descriptions for work activities that guide and direct the behaviors of organizational members. Note that these are general standards that influence the behaviors across many aspects of the members' work. The formalization often limits the discretion of the members in how they work and behave in the organization. Although this formalization of the content of members' work activities influences their behaviors, it doesn't control all of the members' behaviors. For positions with more repetitive tasks (e.g., assembly line), formalization of the content of work activities can be applied quite broadly. However, for positions that are less formal, using skills that require discretion (e.g., research and development), these formalization processes will have more limited impact on the host of behaviors members exhibit in the organization.

In modern organizations, where much of the behavior is not repetitive and routine, other forms of formalization are applied, such as standards for work products and outputs. In this approach it is the performance and perhaps the processes the members enact in their jobs that are formalized through standards. For example, tolerance rates for a process might be stated as being less than 1/million errors. Medical doctors may be told the number of patients they are to meet and treat a day, and the required paperwork they are to complete. Formalization specifies the objectives of the organization in formal terms to guide and direct the members' activities. The formalization of

work products and outputs has a focus on the end state of the members work, and as long as those objectives are being met with the right conditions, then the member's behavior is satisfactory and the command and authority system may not need to exercise any more control or influence. In this fashion, bureaucratic control can be exceedingly efficient because it does not require any more effort on the part of those in positions of command and authority.

Another way that organizations can use bureaucratic control to get things done is through the talents of its members. This can most directly be achieved by (a) training the members so that they have the requisite knowledge, skills, and abilities to do their jobs, or by (b) selecting individuals with the talents (e.g., knowledge, skills, and abilities) the organization needs to achieve its goals and objectives. By hiring individuals who are experts, professionals, or technicians, many organizations can reduce the amount of supervision that is required by those in positions of command and authority. The professional staff is selected because they have the specialized skills and extensive training needed to do complex jobs on behalf of the organization. By stating the degree of expertise and the skill levels required to hold the position in the organization, the organization is able to formalize the type and quality of work performed as well as the professional attitude of the organizational members in performing the work. Alternatively, when members need specific talents for their work and they cannot be selected for those talents, organizations can then develop a training program that will allow it to reliably produce the desired outcomes from its members. Consequently, bureaucratic control can be exercised for standardizing the talents of its members by formalizing the skill sets needed from those recruited by the organization or by formalizing the training programs that can ensure organization members have the required skill sets.

Bureaucratic control is a relatively effective, indirect, and impersonal approach to provide command and authority in organizations having an established structure. To achieve the standards for work content, work performance, and member talents, extensive aspects of the organization's operations and functions have to be formalized. If an organization lacks these formalized standards, then command and authority must be exercised in a different fashion. Moreover, the problems often associated with bureaucratic structures (e.g., being rule bound, impersonal, means-ends confusion) can become problematic for the command and authority subsystem to the degree it relies upon bureaucratic control. Additionally, because of the rigidity that occurs with bureaucratic control, resistance to change will be inherent to the structure. Thus, attempts by those having command and authority to produce change in the organization will have to confront the constraints imposed by the bureaucratic control formalizations that are part of the command and authority subsystem.

Relevant Research Literature

Bureaucratic control is standard approach to command and authority in organizations. Similar ideas will be discussed in general in organizational theory (Daft, 2010) or management textbooks (e.g., Griffin, 2012). Much of this discussion is based upon Mintzberg (1983).

Daft, R.L. (2010). *Organization theory and design* (10th ed.). Mason, OH: South-Western Cengage Learning.

Griffin, R.W. (2012). *Management* (11th ed.). Mason, OH: South-Western Cengage Learning.

Mintzberg, H. (1979). *The structuring of organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Mintzberg, H. (1983). *Power in and around organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Q5: Compliance Out of Respect

To what degree do subordinates in the organization comply with requests from authority because they respect the competence and judgment of the authority figure(s)?

Response Scale: Not at all – Completely

Summary

Command and authority are considered to indicate the power that individuals holding the related positions possess. However, the use of this power to affect organizational goals and objectives reflects influence. Influence by supervisors upon subordinates can derive from a variety of sources. This question focuses on the degree that subordinates are influenced to comply with supervisors because they have respect for the competence and judgment of those in command and authority positions.

It is said that respect is earned. In that way, it results from a series of interactions between a person and a supervisor in which the supervisor demonstrates competence and shows good judgment, particularly with regard to the other person. Just as trust is earned, subordinates can lose respect for those in authority because of poor judgment and displays of incompetence. It is important to note that subordinates' compliance with the wishes of those in command and authority is asymmetrical. It emanates from the subordinate because of the characteristics of the supervisor. The supervisor cannot draw out respect from the subordinates. Rather, subordinates are more willing to comply because they have respect for and give respect to those who they believe have earned it.

Respect does not come from the authority vested in a position an individual holds on an organizational chart. In that regard it is not power from authority. Rather, respect leads to influence. Also, because respect does not derive from positions, it will not be uniform for all the members at the same level in the organization. Among different members of the command and authority structure who have the same amount of power, those with respect will have more influence over how things happen in the organization. So, among a group of supervisors in the organization, some may have more influence because of the respect they have from peers, superiors, and subordinates. Respect is an attribute of supervisors based on their demonstration of competence and judgment.

A supervisor with real respect from others will have a history of showing good judgment. Judgment would be found in the decisions the supervisor makes, advises, or recommends. The judgment would also come from the ways the supervisor goes about confronting problems. Being a good judge reflects having skills in making decisions based on the information is available or can be made available. Competence generally reflects the knowledge the supervisor has. But this competence reflects many dimensions of knowledge; knowing what you know, knowing what to

know, finding out what needs to be known. Competence is also demonstrated in terms of applying the knowledge to the issues or problems the organization or its members are confronting. One has to know how to apply the appropriate knowledge and be willing to apply the knowledge to solve the problems. With repeated demonstrations of competence and judgment, a supervisor can then earn respect, which allows him or her to have greater influence on how things are done in organizations, its goals, and organizational members.

It is important to recognize that respect from competence and good judgment is not general. The respect comes from specific individuals and for particular domains of activity. In organizations, this is respect for the competence and good judgment the individual displays to others in the organization. The same individuals may show poor judgment and lack competence in other arenas of their lives (e.g., families). Similarly, just because a person has good judgment and competence in playing bridge, that does not necessarily translate into respect and influence in the organization. Additionally, respect is authentic. People who flaunt their knowledge, feign competence, or claim exceptionally good judgment may have no respect from others. Some supervisors demand respect from others and use their positions of command and authority to impose their will and control others. This is not based on respect. Respect results in influence based on applying knowledge, having good problem solving skills, and making sound decisions. These aspects of respect from others can also involve interpersonal skills. Individuals with power and authority can also gain respect by having good and reasoned relations with subordinates. Supervisors who treat their subordinates with an eye to the subordinates needs and concerns often garner loyalty from the subordinates, particularly when the supervisor acts loyally toward the subordinates.

Respect can be combined with other forms of authority and influence. A skilled supervisor can have legitimate authority from the position the supervisor holds in the organization as well as the respect of peers, subordinates, and superiors. Also, some individuals in an organization can have influence in spite of having no position of command and authority. Such respected people often exist in organizations (e.g., the go-to-gal, valued confidant, person known to give good counsel). However, when the supervisor has position power and respect from others, they are more able to get the others to comply with his or her wishes because of the respect she or he has garnered from these others. Respect also has a positive reciprocal relationship with influence. The more respect supervisors have, the more likely it is that their ideas and recommendations will be seen as valuable. And, as a result, these recommendations and instructions will be more likely to be implemented and executed. When these actions are successful, the supervisor will gain more respect from others and be more able to influence how things happen in the organization.

Relevant Research Literature

Some of this discussion on respect from competence and judgment is informed by Mintzberg (1983). While discussions of respect arise in various places in the management literature (e.g., Griffin, 2012), a comprehensive conceptualization is currently absent.

Griffin, R.W. (2012). *Management* (11th ed.). Mason, OH: South-Western Cengage Learning.

Mintzberg, H. (1983). *Power in and around organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Q6: Authority from Rewards and Punishments

To what degree do subordinates in the organization comply with the requests from authority because of the benefits and rewards as well as the penalties and the sanctions the authority figure(s) can mete out?

Response Scale: Not at all – Completely

Summary

Persons in command and authority positions in organizations have the capability to provide rewards and apply punishments to others, particularly their subordinates. By using reward and punishment, these individuals can try to get subordinates and others to comply with their requests. This question assesses the degree to which subordinates in the organization comply with the requests of authority figures because of the rewards and punishments they can mete out. French and Raven (1959) described five sources of social power that are quite relevant to command and authority in organizations: reward power, punishment power, legitimate power, expert power and referent power. The capabilities to reward and punish subordinates are direct ways that those in positions of command and authority can influence others in the organization to comply with their requests. While command and authority can be exercised quite directly and unambiguously with rewards and punishments to control and influence subordinates, there are other consequences of the use of rewards and punishments.

Reward power follows from the notion of reinforcement from behavioral psychology. To apply a social reward means to give to a person something that they want (e.g., if you perform well on this assignment, I will recommend you for promotion). One can reward another also by withdrawing something that the person wants to avoid (e.g., if you get this section of the report done this afternoon, then you don't have to stay late to complete your other assignments). In both of these situations, the subordinate views the outcomes in a positive fashion and will be inclined to comply with the supervisor's request. There are a wide variety of rewards that a supervisor can use when attempting to influence subordinates. Compliments and praise are cheap and easy, but bonuses, raises, promotions, days off, and a choice on tasks to pursue are others that involve allocation of resources that the supervisor might control. The problem with using tangible resources as rewards is that if you use up all of your rewards to influence subordinates, you have also drained your source of power to reward. Also, because people psychologically adapt to the level of rewards they receive from the organization, removing rewards will be seen as a punishment, and to gain the same level of influence or motivation from subordinates, you need an increased level of the reward. A reward applied too frequently or without a relative increase in value will lose its effectiveness in getting subordinates to increase their efforts.

The purpose of punishments is to stop activities that the supervisor or organization do not want. This can be for subordination, failing to follow rules, or misbehavior that can threaten the well-being of the organization or its members. A punishment can involve applying something that the person clearly wants to avoid (e.g., because you performed poorly on the previous assignment, I

am sending you to this highly undesirable location for the next assignment). A punishment can also be removing something that the person wants (e.g., because of your poor behavior toward others, you have to forfeit your rank). In both of the cases of applying something unpleasant and removing something desirable, the subordinate has to do something that they would not want to do. The objective of punishments is to get the subordinate to comply with the rules, commands, and wishes of the supervisor or organization. Quite often, the mere threat of a punishment is sufficient to get the subordinate to comply with expected patterns of behavior. Although punishments are non-preferred ways of exercising command and authority, they can be quite effective in rehabilitating individuals who are still capable of making valuable contributions to the organization. However, supervisors have to be very careful in using punishments because the subordinate receiving the punishment can respond with much dissatisfaction and counter-productive behaviors (e.g., sabotage) if the punishment is not applied appropriately.

Those having positions of command and authority in organizations can use rewards and punishments to get subordinates to comply with their requests. However, it requires great skill to use the rewards and punishments effectively and to avoid their drawbacks. Truly punitive supervisors see their purpose as punishing undesired behavior. Their style is to threaten and to punish (e.g., firing, demoting, and chewing out individuals). Alternatively, if a supervisor applies rewards inconsistently, subordinates will see that there is injustice in the way the supervisor metes out rewards. It is the malicious or arbitrary use of rewards and punishments that often lead to claims of abuse of power by those having command and authority positions in organizations.

Relevant Research Literature

The use of reward and punishment is often discussed in organizational behavior (e.g., Wagner & Hollenbeck, 2009) or management textbooks (e.g., Griffin, 2012). Moreover, the uses of the sources of power is relevant to leadership (Northouse, 2012; Yukl, 2013).

French, J. R. P., & Raven, B. (1959). The bases of social power. In D. Cartwright & A. Zander (Eds.), *Group dynamics*. New York: Harper & Row. *Also found in 2nd ed.*

Griffin, R.W. (2012). *Management* (11th ed.). Mason, OH: South-Western Cengage Learning.

Northouse, P.G. (2012). *Leadership: Theory and practice* (6th ed.). Thousand Oaks, CA: Sage.

Yukl, G.A. (2013). *Leadership in organizations* (8th ed.). Englewood Cliffs, NJ: Prentice-Hall.

Wagner, J. & Hollenbeck, J.R. (2009). *Organizational behavior*. New York: Routledge.

Q7: Identification with Authority

To what degree do subordinates in the organizations comply with requests from authority because of the authority figure(s) personality, pleasantness, charisma, or a desire to emulate or identify with the authority?

Response Scale: Not at all – Completely

Summary

Individuals in positions of command and authority can influence their subordinates merely by behaving in a fashion that leads subordinates and others to be like the authority figure. There are social processes of identification in which subordinates (or others perceived as having limited power or influence, such as children) want to be like their superiors. There are a set of identification processes associated with this approach to authority. Importantly, individuals are not likely to comply with the requests out of a reasonable concern for their own position in the organization, but rather because they want to be like and want to emulate the person, the person's viewpoints, and behaviors. It is not surprising that children want to be like their parents as well as their heroes. If a supervisor is a role model in her or his viewpoints, actions, and emotional displays, then others in the organization are likely to want to emulate that supervisor and identify with that authority figure. The authority figure who is a role model can then have tremendous influence on others and may be able to do so without making a request.

As a consequence of the identification processes, a person can identify with an organization, its brand, its ideology, its mission, or its values. Identification with the organization leads individuals to commit themselves to the organization and its mission. Also, a person can identify with an individual such as a peer, supervisor, or superior because of what that person stands for, how the person acts, and how they make the person feel (e.g., inspired). Under these conditions of identification, a person such as a subordinate may want to emulate the person, their viewpoints, their actions, and even their mannerisms. Therefore, it is not hard to see that when a person identifies with an authority figure, it is easier for the authority figure to influence the person, to do what they do, and to comply with their requests (e.g., when former Presidents Clinton and Bush asked Americans to donate to Haitian relief efforts, it is expected that the request will have more influence than a request from you or me).

Identification can be a useful approach to leadership and exercising command and authority. If a person behaves in a fashion such that they are a role model (or hero) to others, they are establishing part of the conditions for the others to identify with the person. A good way to see this is in terms of charisma and charismatic leadership (Conger & Kanungo, 1998). If a person engages in charismatic activities, they will then inspire followers, making it easier for them to comply with requests. Supervisors are more likely to be emulated and serve as role models if they (a) set a good example, (b) foster positive impressions of themselves, (c) convey goals and their value, (d) demonstrate that the subordinates have the means to attain their goals, (e) express

confidence in subordinates' ability, (f) build trust with their subordinates, (g) empower their subordinates, (h) effectively articulate a vision that the subordinates can accept, and (i) inspire the subordinates motivation toward the mission (Conger & Kanungo, 1998). Subordinates may also identify more with authority figures if they have an informal, personal relationship with the person in authority so they can directly observe how the role model thinks and acts. With strong identification, these authority figures can inspire followers to do great things and to go beyond the expected behavior (Bass, 1985).

Identification with an authority figure can significantly impact the subordinate and the relationship between subordinate and superior. By identifying with the authority figure (role model or hero), the subordinate can gain an enhanced self-concept, perceive more self-worth, and can believe that they have greater power or efficacy to achieve their objectives. Also, the subordinates will have high level of trust and confidence in the charismatic leader, role model, or authority figure. With greater identification with the supervisor (a) conflict between the supervisor and subordinate has shown to be minimal, (b) subordinates should have more satisfaction with the supervisor, and (c) there should be more cohesion in the supervisor's unit. Additionally, there should be greater agreement between the supervisor and subordinate in the values of the unit and the goals that will be pursued.

There are some negative aspects of identification with supervisors and leaders. One is that the identification may be linked to the person and not what they stand for. As a consequence, people may start to respond regarding the personality of the leader (a personality cult). A leader can foster this by trying to make the organization and its members an extension of their identity and personality. Charismatic leaders have been known to transform an organization into a monument to their ego. In that case, the needs, goals, and mission of the organization may not benefit from the identification, and the organization can be destroyed in the process. Additionally, identification is a process that is value neutral; what might be considered a positive role model to one may be a negative role model for another. Subordinates can learn from example, and from the organization's perspective, it could be a good example or a bad example. Yet, the subordinates may not be able (or willing) to differentiate between who is an organizational hero and who is an organizational villain. So, for all the potential that people in positions of command and authority can derive from identification by subordinates, they have to be aware of its dark side and recognize that developing identification is difficult to accomplish.

Relevant Research Literature

This discussion of identification with those having positions of command and authority draws upon the general notions of identification theory with relevance to leadership and organizational identification. This work can be found in good textbooks on leadership (Northouse, 2012; Yukl, 2013). At this time, Wikipedia has a very good description of organizational identification as well as the antecedents and consequences of it. The discussion of identification is influenced much by the classic work by Kelman (1958) which also discusses compliance as a result of influence.

Bass, B. M. (1985). *Leadership and performance beyond expectations*. New York: Free Press.

Conger, J. A., & Kanungo, R. N. (1998). *Charismatic leadership in organizations*. Thousand Oaks, CA: Sage Publications.

Kelman, H. C. (1958). Compliance, identification, and internalization: Three processes of attitude change. *Journal of Conflict Resolution*, 2, 51–60.

Northouse, P.G. (2012). *Leadership: Theory and practice* (6th ed.). Thousand Oaks, CA: Sage.

Yukl, G.A. (2013). *Leadership in organizations* (8th ed.). Englewood Cliffs, NJ: Prentice-Hall.

Q8: Legitimacy of Authority

To what degree do subordinates in the organization comply with requests from authority because they perceive the authority as legitimate and it is their responsibility to comply?

Response Scale: Not at all – Completely

Summary

One reason why subordinates will comply with the requests of supervisors is because the supervisor holds a position of command and authority in the organization that is legitimately conferred. “Legitimate” power is the power that is vested in a particular position or person fulfilling a role in an organization. Those with legitimate power can exercise influence on others in the organization to reward, punish, and even remove a person from the organization. From a more organizational theory view of command and authority, legitimacy implies that authority in an organization is rational. Legitimate authority suggests there is an order of how things are done in the organization (e.g., chain of command), and commands from legitimate authorities have a sense of legal authority. Legitimacy can arise from a variety of fashions (highlighted below), yet it reflects the general position that those with command and authority are part of a bureaucratic structure upon which positions are conferred based on merit.

For organizations with a hierarchy, legitimacy is a more traditional form of influence by those in command and authority positions. Legitimacy is prescriptive because the organization has established rules governing how command and authority are exercised. As a consequence, the behaviors of organizational members are more predictable and structured when the authority is perceived as legitimate. In legitimate social structures, compliance to appropriate commands and requests are likely to be followed.

Legitimacy is formally reflected in organizational structures. In an organizational chart with a clearly delineated chain of command, any member of the organization can see to whom they report and to whom they have no need to report. Legitimate authority can be seen in manuals and guidelines that describe the appropriate and inappropriate ways of responding to individuals in different locations in the chain of command. Moreover, there is also an *informal* aspect of legitimacy reflected in unwritten social norms of behavior with regard to authority figures (e.g., the top echelons of the organization are not referred to by their first names). These social norms are often descriptive of the expected behaviors that might not be codified in the manuals or organizational charts.

Katz and Kahn (1978) suggest that deference to authority derives somewhat from cultural indoctrination within a society about social structures. Organizations then appropriate the societal indoctrination for their uses to influence their members.

Through socialization, people come to accept the norms and rules, as well as the notion of command and authority. People also learn what indicates that a person does or does not have legitimate authority. When an individual enters an organization and is socialized in it, then the

individual should agree with the basic premises of who in the organizational chain of command has the responsibility and authority to give commands and issue requests to specific others in the organization. If that chain of command is followed, authority figures give commands and issue requests to only those whom they supervise. Legitimacy means that subordinates respond to the commands and requests of others higher up in the chain of command of the organization. In a sense, there is a collective social contract among the members of the organization with regard to command and authority.

Legitimate authority reflects mutual expectations about how the command and authority subsystem operates in an organization. It is predicated upon bureaucratic structures in which individuals have specialized roles (e.g., supervisor; chief financial officer). In general, all members of the organization have roles that they fulfill. The organization also prescribes certain patterns of behavior for people in their roles. One of these is to follow orders. There should be no disobedience, no dereliction of duty, and no insubordination. People have roles in the organization and there are rules. People fulfill roles and follow rules. In the case of authority, if it is perceived as legitimate, then the authority can expect that orders will be followed and subordinates will comply with requests. As a consequence of this structure based on legitimate authority, when a critical authority figure goes missing (e.g., hospitalization) no important decisions or actions can be taken at that time. This makes the organization quite vulnerable to an unexpected event. Therefore, organizational analysts need to know who does and does not have legitimate authority and the degree that members of the organization will respond to requests and commands from those who do and do not have authority in the organization.

Legitimacy has a great power to induce compliance with requests in organizations. For members of the organization, they perceive legitimacy as influencing compliance because they see it as their duty and that it is rational because compliance is necessary for the organization to function. Another part of legitimacy is that when a subordinate complies with a legitimate (rightful) request, then that subordinate is held responsible for his or her actions in carrying out the request, and that the supervisor also accepts responsibility for issuing the command or request.

Legitimate power vested in command and authority is binding on the behavior of both the supervisor and subordinate. So legitimacy helps us understand another reason why subordinates would comply with the requests of their supervisors.

Relevant Research Literature

This discussion draws from Katz and Kahn (1978), Chapter 10 (Power and Authority: Rule Enforcement). Some of this discussion of legitimacy is informed by Mintzberg (1983). Because of the role of command and authority in organizational structures, a good organizational theory textbook can be useful (Daft, 2010). Moreover, these topics are relevant to leadership issues (Northouse, 2012; Yukl, 2013)

Daft, R.L. (2010). *Organization theory and design* (10th ed.). Mason, OH: South-Western Cengage Learning.

Katz, D., & Kahn, R.L. (1978). *The social psychology of organizations* (2nd ed.). New York: John Wiley & Sons.

Mintzberg, H. (1983). *Power in and around organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Northouse, P.G. (2012). *Leadership: Theory and practice* (6th ed.). Thousand Oaks, CA: Sage.

Yukl, G.A. (2013). *Leadership in organizations* (8th ed.). Englewood Cliffs, NJ: Prentice-Hall.

4.3 External Relations Subsystem: Overview

Engagement with entities outside of the organization; alliances, allies, suppliers, etc. that are sought to further achievements

Summary

External relations involve the relationships (transactions, linkages, alliances, flows, liaisons) that an organization has with external entities such as allies, suppliers, government agencies, partners, stakeholder groups and governing boards. External relations are considered an important part of an organization's relationships. These external relations are considered from the perspective of organization theory (see Daft, 2007, Chap 5). This discussion and the questions related to this subsystem draw heavily upon the work of Mintzberg (1979, 1983) when he discusses liaisons devices for enhancing coordination with external entities. In many ways, the external relations subsystem concerns how the organization coordinates with external organizations, how it forms collaborative alliances, or forms effective relations with suppliers. The questions associated with this subsystem break these relationships into a number of categories (see Mintzberg, 1983, Chaps 4): associates (e.g., suppliers, clients, partners), associations (e.g., labor unions, professional organizations), publics (e.g., special interests, governments, public interest groups), and owners (e.g., stockholders, proprietors, citizen members). Each of these sets of relationships reflects external units that can have important influences on how the organization operates and functions. One example of an external relation would be the line of credit that a financial institution may offer an organization so that the organization has direct access to the financing it requires for short-term operations and resource acquisition. In this regard, the external relationship is what might be called a partnership that is freely entered into for the mutual benefit of both parties to the partnership. These external relationships provide a number of benefits; for example reducing uncertainty with the relations (transaction, linkages, flows) the organization has with external units (e.g., suppliers, clients).

Because organizations purposefully establish these external relations, the external relations are expected to have benefits or to solve a problem the organization routinely faces (e.g., secure supply of resources). However, external relations can also force an organization into a relationship that might not work out. The external relation has an explicit or implicit agreement that requires trust. This trust implies that the organization willfully enters into a relationship in which it could be exploited by the other entity. An organization with an external relation with another entity is to some degree dependent or interdependent upon the other entity.

Organizations generally avoid such relations because they expose the organization to the implicit threats that come with interdependencies. Nevertheless, organizations must sometimes pursue these external relations (e.g., be responsive to a board of directors; follow government requirements for a regulated industry). While the external relation is intended to make the organization more capable to respond to aspects of its operational environment, it also carries

with it the potential of being exploited or having misplaced trust in an a undeserving partner. The alliance or partnership can also be broken by an outside entity that offers the organization or the partner a better deal with regard to the transaction that is the basis of the relationship. Like many other features of organizations, the external relation can simultaneously strengthen an organization in some areas and make it vulnerable in others.

Relevant Research Literature

Daft, R.L. (2007). *Organization theory and design* (9th ed.). Mason, OH: Thomson South-Western.

Mintzberg, H. (1979). *The structuring of organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Mintzberg, H. (1983). *Power in and around organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Q1: Ability to Influence Command/Authority in the Organization

To what extent does the command and authority to make things happen in the organization reside with individuals or groups external to the organization (e.g., government, unions, regulators, board of directors)?

Response Scale: Not at all – To a very high extent

Summary

External relations involve the relationships (transactions, linkages, alliances, liaisons, partnerships) that an organization has with external entities such as allies, suppliers, government agencies, partners, stakeholder groups, governing directors, and even competitors. Organizations vary in how many of these kinds of relationships they have. They also vary in the degree to which the external entities are able to influence the decisions impacting how the organization operates and functions. External relations involve some degree of coordination between the organization and the external entities. This question concerns the extent to which the external relations of the organization are able to influence how things happen in an organization (i.e., influence over the decisions that determine how the organization operates and functions).

When considering external relations, it is important to know how influential these external relations are on the organization. A pharmaceutical company is heavily dependent upon the government regulating agency that approves the drugs it can produce and market. A major stockholder can often determine who will become the CEO of an organization. If an organization fails to reach a new agreement with a labor union, the entire organization may no longer function until an agreement is reached. In the recent past, whole industries were crippled because natural disasters (e.g., earthquake in Japan; volcanic eruption in Iceland) interfered with suppliers delivering components needed in the manufacture of various goods (e.g., computers, automobiles). External relations reflect interdependencies the organization has with other external entities. These relationships with the organization are often ways to ensure that the organization has access to the supplies and markets it desires, so the external relations are necessary features of the organization's interaction with the external environment.

An understanding of an organization's external relations can help an analyst appreciate how the external relations influence the organization's decisions and actions. The external relationships (interdependencies) can be points of leverage if an organization has external relations that are influential for the decisions the organization makes with regard to how it operates and functions. An external relation can make an organization vulnerable if the organization is dependent upon the external entity for some critical feature of its operations (e.g., technology, component in its production process) or needed resource (e.g., electricity, financing, transportation).

Mintzberg (1983, Chap 5) discusses five different means of influence that can be implemented by external entities. (1) Highlight or make salient the *social norms* by which the organization

functions and exert control through the norms. (2) Impose *formal constraints* on the organization regarding the actions that can be taken or that cannot be enacted. (3) Initiate *pressure campaigns* to influence the organization's actions. (4) Apply *direct controls* by going inside the organization to directly influence the organization's actions or operations. (5) Gain *membership on a governing board* to acquire a formal position that allows influence.

External relations are considered from the perspective of organization theory (see Daft, 2007, Chap 5). Discussion for this question draws heavily upon the work of Mintzberg (1979, 1983).

Relevant Research Literature

Daft, R.L. (2007). *Organization theory and design* (9th ed.). Mason, OH: Thomson South-Western.

Mintzberg, H. (1979). *The structuring of organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Mintzberg, H. (1983). *Power in and around organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Q2: Organization's Dependence on Associates

To what extent is the organization dependent upon Associates (suppliers, clients, partners, or competitors)?

Response Scale: The organization is not at all dependent – The organization is very highly dependent

Summary

External relations involve the relationships (transactions, linkages, alliances, liaisons, partnerships) that an organization has with external entities such as allies, suppliers, government agencies, partners, stakeholder groups, governing directors, and even competitors. An organization's relationships with these external entities can result in dependencies. In this question, the organization's dependencies on what Mintzberg (1983, Chap 4) refers to as *Associates* is assessed. *Associate* is the term used for suppliers, clients, partners, or competitors of the organization. Often the relationship is economic in nature; however, an economic exchange is not necessary for the entity to be an associate. Proctor & Gamble may supply the Air Force Material Command with soaps for various operations. The research that the Air Force Research Labs conducts may be performed for a client organization (e.g., a SPO). Organizations may also have partners for which they have entered into implicit or explicit agreements (e.g., Cummins Diesel may have a partnership to provide engines for a motorhome manufacturer). Mintzberg (1979) suggests that external relations with *Associates* are ways for the organization to coordinate with the external entities (e.g., *Associate*).

As noted, an organization's external relationship with an *Associate* can involve the organization being dependent in some fashion upon the *Associate*. To the degree the organization is dependent on the *Associates*, the *Associates* are able to influence how things happen in an organization (i.e., influence over the decisions that determine how the organization operates and functions). Mintzberg (1983) asserts that there are four dimensions involved in the relationship between the *Associate* and the organization that can result in a dependence and potential influence on the organization by the *Associate*. The four dimensions are *essentiability*, *substitutability*, *concentration*, and *intimacy*. Mintzberg (1983) then provides propositions regarding these four dimensions (p. 38).

The more essential the “resource” the *Associate* supplies to the organization, the more influence the *Associate* can have on the organization.

The more substitutable one *Associate* as a client or supplier is for another potential *Associate*, the less influence that *Associate* can have on the organization.

The more concentrated (such that they can form relationships, associations, and bonds among them) the Associates are as either suppliers or clients of the organization, the more influence the Associates can have on the organization.

The longer and the more “intimate” (i.e., accessible, frequent, intense, durable) the relationship between organization and an Associate, the more influence the Associate can have on the organization.

Relevant Research Literature

Mintzberg, H. (1979). *The structuring of organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Mintzberg, H. (1983). *Power in and around organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Q3: Organization's Dependence on Member Associations

To what extent is the organization dependent upon Employee, Professional, or other Associations?

Response Scale: The organization is not at all dependent – The organization is very highly dependent

Summary

External relations involve the relationships (transactions, linkages, alliances, liaisons, partnerships) that an organization has with external entities such as allies, suppliers, government agencies, partners, stakeholder groups, governing directors, and even competitors. An organization's relationships with these external entities can result in dependencies. In this question, the organization's dependencies on what Mintzberg (1983, Chap 4) refers to as Associations is assessed. *Associations* is the term used for the operating members of the organization such as the employees or professional members who form associations outside of the organization. These member Associations have the potential to influence the organization. In voluntary organizations such as a Parent-Teachers Association (PTA), the members might use the association to influence education in the schools in the district. The teachers in a school district might also form a professional association to foster professional development as well as to influence education priorities in the district. Additionally, teachers might form a teachers' association as employees of a district to engage in contract negotiation regarding the teachers' (members) relationship with the organization (school district). Note that the teachers' association reflects individuals who are members of the organization (the school district's education system) who form an association external to the organization for professional activities or employee relationships with the organization (school district) to influence the decisions the organization makes which affect how the organization operates and functions. Mintzberg (1979) suggests that external relations with Associations are ways for the organization to coordinate with the external entities (e.g., Association). For example, the school district may want their teachers to form a professional association so that they pursue further professional development as well as form an employee association so that they have a set of formal agreements regarding the inputs and outputs of teachers as employees will have with the organization (school district's educational system).

As noted, an organization's external relationship with a member Association can involve the organization being dependent in some fashion upon the Association. This means that to the

degree the organization is dependent on the Association; the Association is able to influence how things happen in an organization (i.e., influence over the decisions which determine how the organization operates and functions). These Associations are relatively unique because they reflect Associations of members of the organization who also have a relationship with the external Association that may seek to influence the organization from outside of the organization. The member Associations allow the members of the organization to bring collective influence to bear on the organization.

Mintzberg (1983) discusses two classic forms of member Associations: unions and professional associations. Unions usually reflect the less-skilled members of the organization who are involved in operation of the organization. Because the union members usually exchange unskilled labor for compensation and stable positions in the organization, they have a relatively unique relationship with the organization. Professional associations, however, demonstrate how the professional members of the organization (e.g., professional bureaucracies such as schools, hospitals) who are highly skilled and who support and enforce norms of the standards of effort might band together to collectively influence the organization's decisions, operations, and functions. Although these are the two forms of Associations that Mintzberg discusses, the general case exists for Associations that represent the members of the organization who join Associations to protect their individual or professional interests which might not be reflected in the traditional examples of unions and professional associations. Importantly, the professional, employee, and member Associations may not hold the interests of the organization among their highest priority. At times, members of an organization might bond more closely to the Association than to the organization. As a consequence, to the degree the organization is dependent upon the member Association, there might be conflicts regarding the interests of the organization versus the interests of the member Association.

Relevant Research Literature

Mintzberg, H. (1979). *The structuring of organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Mintzberg, H. (1983). *Power in and around organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Q4: Organization's Dependence on Publics

To what extent is the organization dependent upon Publics (public interests (e.g., media), governments, special interests outside of government)?

Response Scale: The organization is not at all dependent – The organization is very highly dependent

Summary

External relations involve the relationships (transactions, linkages, alliances, liaisons, partnerships) that an organization has with external entities such as allies, suppliers, government agencies, partners, stakeholder groups, governing directors, and even competitors. An organization's relationships with these external entities can result in dependencies. In this question, the organization's dependence on what Mintzberg (1983, Chap 4) refers to as Publics is assessed. Publics are groups representing special or general interests of the public at large. These public interest groups are external and detached from the organization. Yet, these public interest groups feel that they are sufficiently influenced by the organization's decisions or actions that they are determined to influence the organization's decisions and actions. In this fashion, the external relations the organization has with these Publics are a means for the organization to coordinate its actions and decisions with the interests of these external public groups.

Mintzberg discusses three forms of publics. (1) General purveyors of the public interest such as editorialists, religious leaders, community leaders, or teachers. The media often believes it has the responsibility to reflect the public interest (the FCC gives some media outlets a charter that requires them to serve the public interest). (2) Governments reflect the public interest as well. They can influence an organization on behalf of the public interest because they can convey legitimacy to the actions of the organization, or make claims of illegitimacy. Additionally, because governments can establish the rules (laws, regulations) by which the organization must function, they have the capacity to influence the organization. Governments can also use moral persuasion to influence (e.g., jawboning) the organization to act with regard to the public interest. If the moral persuasion fails, governments can pass laws to force the organization to act in ways consistent with what is perceived to be the public interest (e.g., to keep certain organizations away from schools, churches). Governments often feel their purpose is to reflect the public interest. (3) Special interest groups or those organized groups outside of government that seek to reflect the interests of the special group are another Public. The special interest

groups are often formal associations that band together to act on behalf of, or to reflect, the interests of the special group (e.g., Association for Disabled Children). Special interest groups can come out of any number of settings (e.g., previously existing interest groups, associations, private groups). There is a long list of special interest groups that exist (e.g., League of Women Voters) and whose influence is widespread across organizations. Yet, the objective of these public interest groups and the Publics is the same: to influence the decisions and actions of an organization to better reflect their interests.

Mintzberg briefly describes some of the ways that Publics can influence an organization. One factor that plays a role is access to the organization. If one has access to the individuals who make decisions on the part of the organization, then influence is more possible. Similarly, the degree of the relationship between the Public group and organizational decision makers (frequency, duration, durability, intensity) enhances the capability of the Public group to influence the way the organization operates and functions. If a Public does not have direct access, then a Public may indirectly influence the organization's operations and functions by disrupting or interfering with the organization's activities (e.g., chaining oneself to a tree to prevent it from being harvested by a timber company). Another way a Public can influence the organization is to raise questions about the organization's legitimacy. One can legally challenge some of the organization's actions. A Public can also suggest that the organization's actions will violate some public good or interest (e.g., Navy sonar testing is implied to affect whale movement, health, and reproduction).

Because an organization often operates with the assent of a variety of Publics, the organization is somewhat dependent on the Publics' willingness to assent to (or at least tolerate) the organization's decisions and actions. Publics such as public interest groups are notorious for withdrawing their assent for an organization's actions and decisions (e.g., boycotts). To the degree the organization is dependent on the wishes of the Public interest groups, the Publics are able to influence how things happen in an organization (i.e., influence over the decisions which determine how the organization operates and functions). In this fashion, the Public interest groups allow the various members of the interest group to bring collective influence to bear on the organization.

Relevant Research Literature

Mintzberg, H. (1983). *Power in and around organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Q5: Organization Being Critical to Owner Goals

To what extent is the organization critical to the goals of its Owners?

Response Scale: The organization is not at all critical – The organization is very highly critical

Summary

External relations involve the relationships (transactions, linkages, alliances, liaisons, partnerships) that an organization has with external entities such as allies, suppliers, government agencies, partners, stakeholder groups, governing directors, and even competitors. This question focuses on how critical the organization is for the Owners reaching their goals. *Owner* is the term used by Mintzberg (1983, Chap 4) for those with legal title to the organization. Ownership can take many forms. It can be sole proprietors of a small organization. It can be the large numbers of stockholders who own shares in the corporation (e.g., Apple). It can be one organization which wholly owns a subsidiary of the organization (Berkshire Hathaway owns GEICO insurance). Also, a government can also own an organization such as the State of North Dakota owning a State Mill and Elevator.

The degree to which an organization is critical to the Owners reach their goals can vary. Owners may see the organization as only incidental in its influence in their lives and not critical for goal achievement. Alternatively, some Owners may be so personally, professionally, socially, and financially invested in an organization, that the organization is critical to those Owners achieving their goals. Although we usually think of Owners' goals as being financial, other types of goals might also reflect important needs or motivators, and as such, the organization may be critical for fulfilling those goals that might be unique to the Owner.

This question assesses how critical the organization may be for the Owners in reaching their goals. These Owners may be pursuing a variety of goals that involve the organization. The goals may be *personal* in that the person derives some status or feelings of esteem from being an Owner of the organization. The goal may be *financial* in that being an Owner provides a return on investment that helps reach financial goals. The goal may deal with the Owner's *identity* if, for example, the organization displays the Owner's family name. An organization may also help fulfill an Owner's goal to leave a *legacy*, sustaining the Owner's previous contributions and efforts. The organization can also contribute to the Owners' goal of having *meaning* in their lives if they see a purpose in what they do as Owners. The goal may be *emotional* in nature if the organization helps to fulfill emotional goals such as reducing the Owners' fears of uncertainty about their future. One goal that is important for many people is that they perceive *control* over

things in their lives, particularly those things that are important to them. For Owners, having control over some aspects of an organization would help fulfill a goal for control. People may also have goals to be *physical* and to engage in forms of physical activity and Owners of an organization may have this goal fulfilled by having a place and a reason to be active. The Owners of an organization may also see the organization as providing a means for fulfilling goals regarding holding and having primary *relationships*. Another goal is *social* in nature and an organization can help fulfilling this goal by providing a place for social interaction. An organization can also provide Owners with a means of fulfilling goals of *self-development* because as Owners they can determine what they want to achieve for themselves in the organization. One of the over-riding goals of humans is to find *pleasure* and avoid pain (e.g., hedonic motives). The Owners of the organization may have unique personal pleasures that owning the organization may fulfill (e.g., being able to do something concrete that has tangible results). Although these may not be all the goals that Owners may have, this list does provide a way of understanding how the organization may play a more or less critical role in the Owners achieve their unique and specific goals.

Because an organization may be critical for Owners to achieve their goals, the Owners are to an extent dependent on the organization for fulfilling their goals. As a result, to the degree the Owners are dependent on the organization, the organization is able to influence the interaction between Owner and organization (e.g., influence over the Owners' actions and decisions). Therefore, although organizations are often dependent on their Owners, the owners can be dependent on the organization as well. This mutual dependence is a common occurrence in relationships. In the case of Owners of organizations, the Owners are likely to be instrumental to how the organization operates and functions and the organization would be dependent on the Owners. Meanwhile, the organization can also be critical to the Owners' goals with the Owners dependent on the organization as well. This mutual dependence and interdependence is discussed as part of interdependence theory (Rusbult & Van Lange, 2008). Clearly, trust between the Owners and the organization will help maintain the relations between the two in an effective fashion and mistrust could have dire consequences for both the Owners and the organization. Like many other situations, when there is mutual dependence between the Owners and the organization, both parties are exposed to potential exploitation by the other party. Trust is one way in which parties in relationships such as these manage the situation.

Relevant Research Literature

There are various terms that are discussed in this overview. Research on goals comes from various perspectives such as discussed in Pervin (1989). Also, goals are often related to a person's sense of self and are related to a person's self-concept. These topics are covered in Brown (2007).

Brown, J. (2007). *The Self*. New York: Psychology Press

Mintzberg, H. (1983). *Power in and around organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Pervin, L. A. (1989). *Goal concepts in personality and social psychology*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Rusbult, C.E., & Van Lange, P.A.M. (2008). Why we need interdependence theory. *Social and Personality Psychology Compass*, 2(5), 2049-2070.

Q6: Organization Being Critical to Associates' Goals

To what extent is the organization critical to the goals of Associates (suppliers, clients, partners, or competitors)?

Response Scale: The organization is not at all critical – The organization is very highly critical

Summary

External relations involve the relationships (transactions, linkages, alliances, liaisons, partnerships) that an organization has with external entities such as allies, suppliers, government agencies, partners, stakeholder groups, governing directors, and even competitors. This question focuses on how critical the organization is for the Associates reaching their goals. Associates is the term Mintzberg (1983, Chap 4) used for suppliers, clients, partners, or competitors of the organization. Often the relationship is economic in nature; however, an economic exchange is not necessary for the entity to be an associate. Proctor & Gamble may supply the Air Force Material Command with soaps for various operations. The research that the Air Force Research Labs conducts may be performed for a client organization (e.g., SPO). Organizations may also have partners for which they have entered into implicit or explicit agreements (e.g., Cummins Diesel having a partnership to provide engines for a motorhome manufacturer). Mintzberg (1979) suggests that external relations with Associates are ways for the organization to coordinate with the Associates.

The organization under consideration can vary in how critical it is for the Associates to reach their goals. For some Associates, the organization may not be critical at all for the Associates to reach their goals, particularly if the organization is not essential to the Associate's operations. Associates of the organization may see it as only incidental in its influence and not critical for goal achievement. Alternatively, some Associates may have such strong relationships with an organization (e.g., partnerships) such that the organization is critical to those Associates achieving their goals. Although we usually think of the goals the Associates have as being economic, other types of goals might also reflect important needs or motivators of the Associates, and as such, the organization may be critical for fulfilling those goals that might be unique to that Associate (e.g., supplier, client, partner or competitor).

This question assesses how critical the organization may be for the Associates in reaching their goals. These Associates may be pursuing a variety of goals for which the organization can be involved. The goals may be personal in that the Associate as a person derives some status or feelings of esteem from being an Associate of the organization. Being known as the competition for the top firm in an industry is often taken as praiseworthy. The goal may be financial in nature in that being an Associate provides a basis for financial gain such as when the Associate is a supplier to the organization which helps the Associate reach financial goals. The goal may deal with the Associate's identity as when a supplier is allowed to place on its products that it is the sole supplier to the royal family in Britain. The organization can also contribute to the Associates' goal of having meaning in their lives because the Associates serving as a partner, supplier, or even competitor can help the Associate see a purpose in what they do (e.g., if it

wasn't for us, everyone would have to deal with that organization). The goal may be emotional in nature and the organization helps to fulfill the Associates' emotional goals such as having pride in the work they do with regard to the organization. One goal that is important for many people and organizations is that they perceive control over things in their lives, particularly those things that are important to them. For Associates, having control over some aspects of an organization's operations and functions (e.g., supplier, partner) would help fulfill a goal for control. The Associates of an organization may also see the organization as providing a means for fulfilling goals regarding holding and having primary relationships. A partnership between an Associate and the organization would be a clear example of a primary relationship. Another goal is social in nature and an organization can help fulfill this goal by providing a basis for social interaction for the Associate. An organization can also provide Associates with a means of fulfilling goals of self-development because as Associates they can determine what they want to achieve for themselves in the organization. When suppliers strive to continually increase the quality and reliability of their products, they could be fulfilling self-development goals. One of the over-riding goals of humans is to find pleasure and avoid pain (e.g., hedonic motives). The Associates of the organization may have unique personal pleasures that associating with the organization may fulfill (e.g., to serve public needs and the public good). Although these may not be all the goals that Associates may have, this list does provide a way of understanding how the organization may play a more or less critical role in the Associates achieve their unique and specific goals.

Because an organization may be critical to Associates achieving their goals, the Associates are to an extent dependent on the organization for fulfilling their goals. As a result, to the degree the Associates are dependent on the organization to fulfill goals; the organization is able to influence how the Associate interacts with the organization (e.g., influence over the Associates' actions and decisions). Therefore, although organizations are often dependent on their Associates as suppliers, clients, partners, and competitors, the Associates can be dependent on the organization as well. This mutual dependence is a common occurrence in relationships. In the case of Associates of organizations, the Associates are likely to be instrumental in organizational operations and functioning, and the organization would be dependent on the Associates.

Meanwhile, the organization can also be critical to the Associates' goals, with the Associates dependent on the organization as well. This mutual dependence and interdependence is discussed as part of interdependence theory (Rusbult & Van Lange, 2008). Clearly, trust between the Associates and the organization will help maintain the relations between the two in an effective fashion and mistrust could have dire consequences for both the Associates and the organization. Like many other situations, when there is mutual dependence between the Associates and the organization, both parties are exposed to potential exploitation by the other party. Trust is one way in which parties in relationships such as these manage the situation.

Relevant Research Literature

There are various terms that are discussed in this overview. Research on goals comes from various perspectives such as discussed in Pervin (1989) and Brown (2007).

Brown, J. (2007). *The Self*. New York: Psychology Press

Mintzberg, H. (1983). *Power in and around organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Pervin, L. A. (1989). *Goal concepts in personality and social psychology*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Rusbult, C.E., & Van Lange, P.A.M. (2008). Why we need interdependence theory. *Social and Personality Psychology Compass*, 2(5), 2049-2070.

Q7: Organization Being Critical to Member Associations Goals

To what extent is the organization critical to the goals of Employee, Professional, or other Associations?

Response Scale: The organization is not at all critical – The organization is very highly critical

Summary

External relations involve the relationships (transactions, linkages, alliances, liaisons, partnerships) that an organization has with external entities such as allies, suppliers, government agencies, partners, stakeholder groups, governing directors, and even competitors. This question focuses on how critical the organization is for member associations reaching their goals.

Associations is the term used by Mintzberg (1983, Chap 4) for the operating members of the organization such as the employees or professional members who form associations outside of the organization. Mintzberg (1983) discusses two classic forms of member Associations: unions and professional associations. These member Associations have the potential to influence the organization. In voluntary organizations such as a Parent-Teachers Association (PTA), the members might use the association to influence education in the schools in the district. The teachers in a school district might also form a professional association to foster professional development as well as to influence education priorities in the district. Additionally, teachers might form a teachers' association as employees of a district to engage in contract negotiation regarding the teachers' (members) relationship with the organization (school district). Note that the teachers' association reflects individuals who are members of the organization (the school district's education system) who form an association external to the organization for professional activities or employee relationships with the organization (school district) to influence the decisions the organization makes which affect how the organization operates and functions.

The organization can vary in how critical it is for the member Associations to reach their goals. For some Associations, the organization may be only incidental in its influence on the members and not critical for goal achievement. Alternatively, some Associations may have such strong relationships with an organization that the organization would be critical to those Associations achieving their goals (e.g., a union local that is contracted with the organization). Although we usually think of the goals the Associations might have as being economic, other types of goals might also reflect important needs or motivators of the Associations, and as such, the organization may be critical for fulfilling those goals which might be unique to that Association. This question assesses how critical the organization may be for the member Associations in reaching their goals. These Associations may have a variety of goals they may be pursuing in which the organization can be involved. The goals may be *personal* in that the members derive some status or feelings of esteem from being an Association of the organization. For example, an association of Air Force veterans may provide personal feelings for the members. The goal may be *financial* in nature in that the Association helps reach financial goals such as a union membership contributing to income. The goal may deal with the Association members' *identity*

in the organization. For example, the nurses association in a large hospital might help provide a professional identity. An organization may also help fulfill an Association's goal to leave a *legacy* in that the organization sustains the Association's members' previous contributions and efforts (e.g., an association of retired employees). The organization can also contribute to the Association members' goals of having *meaning* in their lives because they see a purpose in what they do as Association members (e.g., PTA). The goal may be *emotional* in nature and the organization helps to fulfill emotional goals such as the thrills and agony that members' of the boosters of school athletic programs feel. One goal that is important for many people is that they perceive *control* over things in their lives, particularly those that are important to them. For Associations, having control over some aspects of an organization would help fulfill a goal for control. Employee unions are a good example of associations that help members have a sense of control over aspects of the organization's operations and functions. People may also have goals to be *physical* and to engage in forms of physical activity and Associations of an organization may have this goal fulfilled by having a place and a reason to be active. The Association's members may also see the organization as providing a means for fulfilling goals regarding holding and having primary *relationships*. The professional and union associations associated with organizations can provide these primary relationships. Another goal is *social* in nature and an organization can help Association members fulfill this goal by providing a place for social interaction in the organization. An organization can also provide Associations with a means of fulfilling goals of *self-development* because as Associations they can determine what the members want to achieve for themselves in the organization. For example, professional associations often provide standards and criteria for professional achievements (licensing) which can give the members a means to fulfill self-development goals for their work in the organization. One of the over-riding goals of humans is to find *pleasure* and avoid pain (e.g., hedonic motives). Association members may have unique personal pleasures that membership in the association within the organization may fulfill (e.g., Presidents of the Associations can feel they are contributing development of new members). Although these may not be all the goals that Association members may have, this list does provide a way of understanding how the organization may play a more or less critical role in how the Associations and their members achieve their unique and specific goals.

Because an organization may be critical for Associations and their members to achieve their goals, the Associations are to an extent dependent on the organization for fulfilling their goals. As a result, to the degree the Associations are dependent on the organization; the organization is able to influence how the Association interacts with the organization (e.g., influence over the Associations' actions and decisions). Therefore, although organizations are often dependent on their Associations, the Associations can be dependent on the organization as well. This mutual dependence is a common occurrence in relationships. In the case of Associations of organization members, the Associations are likely to be instrumental for how the organization operates and functions and the organization would be dependent on the Associations. Meanwhile, the organization can also be critical for the Associations' goals with the Associations dependent on

the organization as well. This mutual dependence and interdependence is discussed as part of interdependence theory (Rusbult & Van Lange, 2008). Clearly, trust between the Associations and their members with the organization will help maintain the relations between the two in an effective fashion and mistrust could have dire consequences for both the Associations and the organization. Like many other situations, when there is mutual dependence between the Associations and the organization, both parties are exposed to potential exploitation by the other party. Trust is one way in which parties in relationships such as these manage the situation.

Relevant Research Literature

There are various terms that are discussed in this overview. Research on goals comes from various perspectives such as discussed in Pervin (1989). Also, goals are often related to organizational (e.g., associations) goals and objectives which are covered in Locke and Latham (1984).

Locke, E. A., & Latham, G. P. (1984). *Goal setting: A motivational technique that works!* Englewood Cliffs, NJ: Prentice-Hall.

Mintzberg, H. (1983). *Power in and around organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Pervin, L. A. (1989). *Goal concepts in personality and social psychology*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Rusbult, C.E., & Van Lange, P.A.M. (2008). Why we need interdependence theory. *Social and Personality Psychology Compass*, 2(5), 2049-2070.

Q8: Organization Being Critical to “Publics” Goals

To what extent is the organization critical to the goals of Publics (public interests (e.g., media), governments, special interests outside government)?

Response Scale: The organization is not at all critical – The organization is very highly critical

Summary

External relations involve the relationships (transactions, linkages, alliances, liaisons, partnerships) that an organization has with external entities such as allies, suppliers, government agencies, partners, stakeholder groups, governing directors, and even competitors. This question focuses on how critical various groups pursuing the public interest find the organization is for reaching their goals. *Publics* is the term used by Mintzberg (1983, Chap 4) to refer to groups representing special or general interests of the public at large. These public interest groups are external and detached from the organization. Yet, these public interest groups feel sufficiently influenced by the organization’s decisions or actions that they attempt to influence the organization’s decisions and actions. In this fashion, the external relations the organization has with these *Publics* provide a means to coordinate with these groups.

Mintzberg discusses three forms of publics: (1) general purveyors of the public interest such as editorialists, religious leaders, community leaders, or teachers, (2) governments and their agencies reflecting the public interest, and (3) special interest groups or those organized groups outside of government that seek to reflect the interests of the special group. The objective of these *Publics* is to influence the decisions and actions of an organization to better reflect the *Publics’* interests.

Organizations vary in how critical they are to their *Publics’* goals. The organization may be moderately critical to the *Publics* reaching their goals. Alternatively, some *Publics* may have such strong relationships with an organization that the organization is critical to achieving the *Publics’* goals (e.g., anti-death penalty group and a state Supreme Court).

This question assesses how critical the organization may be for the *Publics* in reaching their goals. The *Publics* might have numerous goals for which the organization is instrumental in achieving. The goals may be *personal* in that the members of the public interest groups derive some satisfaction from the activities of the *Public* (e.g., hearing- impaired individuals advocating for transmission of public events to their hearing aids.) The goal may be *financial* in nature in that the *Publics* help people reach financial goals (e.g., an interest rate reduction for government-backed college student loans.) The goal may deal with the public interest group’s *identity* in that the organization. For example, many environmentally conscious individual organize to help the organization be more environmentally friendly. An organization may also help fulfill a *Publics’* goal to leave a *legacy* in that the organization keeps and publicizes records of the *Publics’* contributions and efforts (e.g., a cancer wing of a hospital notes the contributions of the local American Cancer Society chapter). The organization can also contribute to the members of the interest groups goals of having *meaning* in their lives because they see a purpose in what they do

as part of the interest group. This is clearly an outcome for *Publics* since the interest group is purpose and meaning based. The goal may be *emotional* in nature and the organization helps to fulfill emotional goals such as helping to sponsor an event that gives the members a feeling of achievement. One goal that is important for many people is that they perceive *control* over things in their lives, particularly those which are important to them. For members of interest groups, when the organization responds to its influence attempts they will feel they have some control over aspects of an organization operations. People may also have goals to be *physical* and to engage in forms of physical activity and *Publics* may have this goal fulfilled by organizations providing a place and a reason to be active (e.g., public health advocates and organization providing access to a health club). The interest group's members may also see the organization as providing a means for fulfilling goals regarding holding and having primary *relationships*. Another goal is *social* in nature and an organization can help interest group members fulfill this goal by providing a place for social interaction in the organization. When an interest group advocates for some position, the influence attempt generally involves communication and social interaction. The organization can provide a place and opportunity for the social interaction. One of the over-riding goals of humans is to find *pleasure* and avoid pain (e.g., hedonic motives). Interest group members may have unique personal pleasures or desires to avoid pain that association within the organization may fulfill (e.g., SPCA members working to improve the dog pound). Although these may not be all the goals that *Publics* and interest group members may have, this list does provide a way of understanding how the organization may play a more or less critical role in how the *Publics* and their members achieve their unique and specific goals.

Publics are by their nature dependent upon the organization because the organization is often the vehicle by which the changes they advocate are brought about. Because an organization may be critical for *Publics* and their members to achieve their goals, the *Publics* are to an extent dependent on the organization for fulfilling their goals. As a result, to the degree the *Publics* are dependent on the organization; the organization is able to influence how the *Publics* interact with the organization (e.g., influence over the *Publics'* actions and decisions). Therefore, although organizations may be dependent on their *Publics*, the *Publics* can be dependent on the organization as well. This mutual dependence is a common occurrence in relationships. The *Publics* are likely to be influential in how the organization operates and functions and the organization would be dependent on the *Publics*. Meanwhile, the organization can also be critical for the *Publics'* goals with the *Publics* dependent on the organization as well. This mutual dependence and interdependence is discussed as part of interdependence theory (Rusbult & Van Lange, 2008). Clearly, trust between the *Publics* and their members with the organization will help maintain the relations between the two in an effective fashion and mistrust could have dire consequences for both the *Publics* and the organization. Like many other situations, when there is mutual dependence between the *Publics* and the organization, trust is one way in which parties in relationships such as these manage the situation.

Relevant Research Literature

There are various terms that are discussed in this overview. Research on goals comes from various perspectives such as discussed in Pervin (1989). Also, goals are often related to group (e.g., interest groups) and organizational goals and objectives which are covered in Locke and Latham (1984).

Locke, E. A., & Latham, G. P. (1984). *Goal setting: A motivational technique that works!* Englewood Cliffs, NJ: Prentice-Hall.

Mintzberg, H. (1983). *Power in and around organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Pervin, L. A. (1989). *Goal concepts in personality and social psychology*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Rusbult, C.E., & Van Lange, P.A.M. (2008). Why we need interdependence theory. *Social and Personality Psychology Compass*, 2(5), 2049-2070.

4.4 Finance & Budgeting Subsystem: Overview

Acquiring, monitoring and regulating the funds and related resources that allow the organization to pursue objectives

Summary

The finance and budgeting subsystem encompasses a number of functions related to an organization's financial resources. These include accounting functions for maintaining financial control (e.g., payroll, accounts payable, accounts receivable, auditing, financial reporting), as well as more strategic financial planning functions (e.g., budgeting, capital investment, financing). Through financial planning and control mechanisms, organizations can project needs, develop financial strategies to fit those needs, and implement budgets that allocate resources in a way that will best achieve those needs.

In a well-organized business structure, financial planning and budgeting work together, matching expenses to income in an attempt to attain balance. Often, the head of an organization's financial and budgeting department, such as a chief financial officer or finance director, will work closely with the organization's leadership to ensure that current and projected resources will support the near and long term goals of the organization. Deficits resulting from imbalance can lead to borrowing and/or cuts in costs—including human capital; surplus generally leads to savings and potential organizational expansion.

When reviewing an organization's approach to financial management, it is important to examine a number of different factors to get full picture of the subsystem. This means looking beyond simply the amount of financial resources an organization has. It involves understanding the degree to which and mechanisms by which finances are tracked, controlled, and reported. It also involves understanding the extent to which resource allocation is indicative of, and in line with, future organizational pursuits. Such evaluations can provide clues to an organization's strengths and weaknesses, potentially providing leverage points for disruption or support.

Relevant Research Literature

Groppelli, A.A., & NikBakht, E. (2000). *Finance* (4th ed.). Hauppauge, New York: Barron's Educational Series, Inc.

Q1: Risk Orientation

How risk tolerant versus risk averse is the financial/investment orientation of the organization?

Response Scale: Extremely risk tolerant – Extremely risk averse

Summary

All organizations operate with some level of financial risk. Every time a spending decision or resource allocation is made, there is some level of risk associated with the action. As in many other aspects of organizational operations, there are those who will tolerate risk and those who avoid it. In general, a risk averse organization is one that seeks stability over higher potential returns; whereas a risk tolerant organization may seek greater returns, accepting that such decisions may lead to decreased organizational stability. When looking at risk tolerance from a business perspective, there are two types; unique risk and market risk (Brealey & Myers, 1996). Unique risk is that generated through concentrating resources in one asset, such as investing in only one stock or product line (Brealey & Myers, 1996). While this strategy may result in great gains, a single point of success can easily become a single point of failure leading to financial ruin. Organizations that are risk tolerant are more likely to operate in this manner.

Market risk is the result of diversification of resources or funds, such as investing in more than one stock or product line (Brealey & Myers, 1996). Instead of reliance on a single point of success or failure, risk is spread across a number of assets leading to fluctuations in assets tied to the overall performance of the market(s). There is, however risk associated with such diversification. Depending on the financial strength of the organization, such a choice could equate to either a negative or positive move. From the positive perspective, those with sufficient funds and business savvy are most likely well-positioned to expand into new markets, having both the financial and human resources in place to take advantage of the benefits such expansions may offer. In contrast, such a move could become a vulnerability if the organization has misjudged its readiness to expand, potentially leading to financial loss and generalized instability.

Another factor to consider when assessing tolerance for risk is the organization's level of sophistication. According to research conducted for the Financial Services Authority (Conquest Research Ltd., 2004), individuals who operate from a less sophisticated stance do not view themselves as fiscally vulnerable to risk, while those on the opposite end of the spectrum tend to actively gauge risk, seeking to classify it on a scale from low to high, often attaching that assessment to the type of resource allocation made. This is somewhat reflective of the market and unique risk discussed above. The more sophisticated organization will most likely avoid risk by diversifying while the less sophisticated may be inclined to pursue one profit avenue, ignoring the potential downfalls of such a choice.

Understanding the level of financial risk an organization is willing to take and how it approaches its investments is important because such knowledge provides potential leverage points for

organizational disruption or support. Logically, those that operate with high risk, concentrating their financial well-being in one area, are more susceptible to influence than those who avoid risk. Additionally, an understanding of an organization's attitudes toward financial risk will help reveal a factor that can directly impact its behavior and financial decision. Consequently, if a financial decision is described in a fashion that exaggerates or downplays the level of risk associated with the decision, one can use the organization's risk orientation to influence the likelihood that it would make a risky or cautious decision, which will influence resource allocations, and by association, the organization's financial stability.

Relevant Research Literature

Brealey, R.A. & Myers, S.C. (1996). *Principles of corporate finance*. New York: McGraw-Hill.
Conquest Research Ltd. (2004, November). *Consumer understanding of financial risk*.
Retrieved from Financial Services Authority: <http://www.fsa.gov.uk/pubs/consumer-research/crpr33.pdf>

Q2: Stability of Financial Position

How stable versus unstable is the financial position of the organization (e.g., income, financing, expenditures)?

Response Scale: Extremely Unstable – Extremely Stable

Summary

The stability of an organization's financial position is tied to budget management. Those whose budget is strategically matched to organizational goals and market realities are more likely to exhibit stability than organizations that operate without such plans in place. In short, organizations that operate with a plan, having established controls and agreed upon policies and procedures, are more likely to succeed than those who make ad-hoc spending/investing decisions. There is also the consideration of an organization's size and liquid assets; that is, the amount of cash on hand. Further consideration should be given to an organization's credit status, noting that those with limited credit are in greater jeopardy. Larger organizations tend to be at smaller risk for such crises. While not exempt from credit and cash-flow problems, these large organizations are typically better positioned than their smaller counterparts due to a tendency to diversify assets.

What are the potential consequences of fiscal instability? Beyond the obvious answers of the potential for lower profit margins or the need for financial support in the form of borrowing, there is the human impact in the form of reactions by employees or organization members. There is also the consideration of instability generated from excess assets; when income outpaces the organization's ability to manage its assets, or the organization itself grows to a point beyond current management's ability to control, creating a tipping point where its size and complexity make old methods obsolete. How will an organization and its members react to financial stability/instability?

As in any other crisis, reaction to changes in an organization's financial situation will most likely vary from panic to a coordinated response depending on the level of planning in place. For some with no plans and unexpected losses, there may be a panicked sell-off of assets or sudden change in command; for others with plans in place, the reaction to such a situation may be similar, but less dramatic and more deliberate. Those fortunate to be in a position of excess may also find themselves in need of change, with approaches once again being reflective of the degree of planning in place. In either event, the organization's goal should be to achieve financial balance in the face of change.

Perhaps the reaction of an organization to fiscal change boils down to timing. If an organization experiences instability during a time of generalized financial crisis (e.g. other companies and organizations are also struggling), there may be a tendency to continue business as usual, riding out the financial storm in hopes of a turn-around. In contrast, if the overall outlook financial situation outside of the organization is positive while the organization is struggling, leaders may exhibit a greater tendency to panic, rushing to reorganize in an attempt to save their failing

organization. Those experiencing financial booms will also undoubtedly consider the overall financial situations of their competitors when making decisions, knowing that well-executed moves on their part could lead to market dominance.

While the primary focus of this subsystem is on finances, the organization's stability during times of fiscal change can also be impacted by its membership's collective reaction. As in any other crisis, there will most likely be a range of reactions, from those who panic to those who deny or embrace the challenge. As a result, for example, when hard times arrive, do an organization's members join together out of loyalty to help sustain the organization or do they act in their own best interests, opting to abandon what is perceived to be a sinking ship? The perceived financial instability of an organization can have influences on the actions of the organization's members (e.g., loyalty).

An organization's financial stability needs to be considered in the context of the financial stability of other organizations in similar markets or sectors. Is the stability or instability a result of external or market forces, or does it result from the actions of the organization? When an organization is uniquely in financial instability in a stable market, there are aspects of the organization that make it vulnerable. Alternatively, if the organization appears financially stable while similar organizations are struggling, perhaps the organization has insulated itself from market forces which are a problem for organizations that will thrive in the long run.

Consequently, the stability of an organization's financial position is a function its own actions and the external environment. The stability of that organizational financial position has implications for the reactions of the organization's members as well as the quality of its decisions.

Relevant Research Literature

Brealey, R.A., & Myers, S.C. (1996). *Principles of corporate finance*. New York: McGraw-Hill.

Groppelli, A.A., & NikBakht, E. (2000). *Finance* (4th ed.). Hauppauge, New York: Barron's Educational Series, Inc.

Q3: Accountability of Financial System

How accountable versus unaccountable (e.g., corruptible) is the financial system used by the organization?

Response Scale: Extremely unaccountable – Extremely accountable

Summary

The level of accountability of an organization's financial system is often reflected in the number of controls in place. Unlike those who make ad-hoc resource allocation decisions, organizations with established controls and agreed upon policies and procedures are more likely to leave a paper trail of their financial activities, thus making it more difficult for corrupt activities to transpire.

From an external perspective, financial controls can take the form of government regulations that potentially make old practices illegal, opening the door for greater accountability, or more creative ways to sidestep new laws. Wage-price controls in the 1970's (inflation controls) and war-time controls against profiteering are some examples. However, in these instances, there were individuals and businesses that could skirt the controls and profit in the process.

Focusing on internal financial controls, according to Biegelman and Bartow (2006), there are essentially three categories of activity that can lead to a lack of accountability in an organization's financial system: (1) the characteristics of management, (2) the condition of the industry, and (3) the overall financial stability and operational complexity of the organization. Within each, there are elements that can directly impact the accountability, and corruptibility, of an organization's financial system.

Beginning with characteristics of management, there are a number of elements that can lead to unaccountability in an organization's financial system including its size, history, and stability. For example, organizations that are controlled by an individual or small group can have leaders who are less accountable and potentially more open to corruption compared to organizations having a more democratic structure in place. When fewer people in control, there is less generally known about their activities. Further, if existing leaders have a history of poor behavior, there is always a chance it could continue. Finally, the stability of upper management and leaders plays a role, with high turnover potentially leading to less accountability. By contrast, organizations with more democratic leadership structures, leaders with longevity, and leaders with no history of fraudulent behavior have a higher probability of having a financial system in place that is accountable to its membership.

The other factors which can impact a financial system's accountability relate to the condition of the industry as well as its financial stability and operational complexity. With regard to condition of the industry, the organization's financial system needs to be strong enough to handle innovative changes (e.g., technology), market decline, or the addition of new regulations. Any or all of these factors could introduce uncertainty, creating opportunities for corrupt activities and associated unaccountability. In times of instability, leaders may be inclined to falsify reports,

leading members to believe there is profit where none exists and possibly leading to cover-ups and unaccountable systems. There is also the consideration of complexity. The more complex the transaction, the more difficult it may be to trace the transaction. This may lead those involved in the opportunity to deny their participation. Thus, those acting unaccountable cannot be pinpointed if questionable activity is discovered.

Organizational leadership can provide clues to the integrity/accountability of an organization's financial system through the leaders' stability, numbers, and historical behavior. Stable systems that operate with relative simplicity are more likely to have accountability than those that are complex or that are in frequent transition. Consequently, when control systems that are weak and organizations have leaders and members who are corruptible, then unaccountable actions can result which make an organization vulnerable.

Relevant Research Literature

Biegelman, M.T., & Bartow, J.T. (2006). *Executive roadmap to fraud prevention and internal control: Creating a culture of compliance*. Hoboken, NJ: John Wiley & Sons.

Brealey, R.A., & Myers, S.C. (1996). *Principles of corporate finance*. New York: McGraw-Hill.

Q4: Rate of Return to Stakeholders

How adequate is the organization's rate of return to its "investors"?

Response Scale: Extremely Inadequate – Extremely Adequate

Summary

This question attempts to gauge the subjective evaluation of an organization's stakeholders. Stakeholders can include a variety of individuals with a vested interest in the performance of the organization. These could include investors in a publicly traded company, members of a trade union, taxpayers to a government, or citizens protected by a military organization. The "return" that stakeholders perceive can be in the form of money (i.e., investment returns), or services provided by the organization.

What happens when stakeholders are happy, and what happens when they are not? Logically, it is in the best interests of the organization to ensure that stakeholders are satisfied with the organization's products or services; otherwise, they will more than likely take their business, their vote, or their loyalty elsewhere. Factors that influence stakeholder judgment include communication with the organization, and, of course, perceived returns. As costs decrease, and communication and returns increase, investor loyalty and retention increase as do the resources they are willing to invest. The bottom line is that organizations rely upon stakeholders to succeed, and keeping them happy is part of the organization's responsibilities.

In his discussion of organizational financial success Reichheld (2001) points out that a key component of success is "doing what you say you are going to do." This applies to stakeholder (including investor) relationships. Through honest and consistent interactions, organizations build loyalty with their customers, suppliers, and investors; and they also strengthen their own bottom line. Reichheld (2001) states that "partnership builds incentive, incentive builds value; value builds loyalty; and loyalty builds even greater value." Reichheld (2001) contends that loyalty is often undervalued. Organizations often fail to understand that keeping stakeholders satisfied (and a steady investor/customer base) is key to continued success and necessary to sustain an organization's stability. Without loyalty, stakeholders move on, along with their assets.

The rate of return of an organization to its stakeholders is important for a number of reasons. Clearly it reflects the perceived rate of return that the stakeholders receive. But it also suggests how important the organization thinks its stakeholders are to the organization's success.

Moreover, strong rates of return are likely to produce stability in terms of stakeholders because of their satisfaction. Alternatively, organizations with dissatisfied stakeholders are likely to be threatened by stakeholder defection and withdrawal of their support. Perceptions of a low rate of return means that stakeholders are less likely to "invest" themselves, their funds, their loyalty, and their future with those organizations.

Relevant Research Literature

Reichheld, F. F. (2001). *The loyalty effect: The hidden force behind growth, profits, and lasting value*. Cambridge, MA: Harvard Business Review Press.

Q5: Vulnerability to External Change

How vulnerable is the organization to external financial and economic changes (given its cash flow, reserves, or financing)?

Response Scale: Extremely Vulnerable – Extremely Invulnerable

Summary

In an environment of financial and economic change, it is important that organizations operate from a secure position, prioritizing expenditures to make sure their financial position is in line with overall market stability. As discussed by Brealey and Myers (1996), organizations that operate with a financial plan in place are less vulnerable during times of economic change. Organizations with a financial structure designed to respond to changes are less vulnerable than those with no plans in place to deal with fluctuations in the economic climate.

Stable organizations with readily available assets and a diversified base for revenues are generally less vulnerable to the influences of external changes. They have enough money to buttress themselves in tough times and leverage opportunities for expansion that might be available. Stable organizations tend to be larger, possessing an ability to ride out financial difficulties unlike many of their smaller, less diversified counterparts.

It should be noted, however, that larger organizations are not immune to the effects of external financial change. There are many that mimic the small business approach, concentrating all of their assets in one area, potentially leading to economic downfall and vulnerability to encroachment by others. There is also the question of the role of leadership in the reaction to external changes. If the leader is egoistic and focused only on themselves, then he/she may be less concerned with how external changes influence the potential survival of the organization.

There is also the impact of changes in costs of the organization. If the costs of the organization skyrockets (e.g., petroleum spikes), the organization becomes vulnerable if it does not have a plan for adapting to dramatic changes in costs. There is also vulnerability in building an organization based solely on current demands. Such an organization is unable to adequately change as needs change. The way the organization functioned is no longer of value or interest to its client base (e.g., Stalinism). This is where strategic business plans offer more security because they usually have contingencies in place to deal with such changes.

It is important to be aware of how the organization can respond to external financial changes. Such information highlights the organization's long term survivability and as well as specific vulnerabilities. Organizations that have been identified as being more rigid in their approach may be more likely to demonstrate vulnerabilities during times of economic change.

Relevant Research Literature

Biegelman, M.T., & Bartow, J.T. (2006). *Executive roadmap to fraud prevention and internal control: Creating a culture of compliance*. Hoboken, NJ: John Wiley & Sons.

Brealey, R.A., & Myers, S.C. (1996). *Principles of corporate finance*. New York: McGraw-Hill.

Q6: Vulnerability in Budget Processes

How vulnerable is the budgeting processes to faulty estimates, mis-information, and inadequate understanding of the organization's finances?

Response Scale: Extremely Vulnerable – Extremely Invulnerable

Summary

In any system, financial resources are finite. As such, errors in the management of financial resources can lead to organizational disruption. Because of this, it is important that an organization's budgeting process be structured in such a way that no one individual has sole control, that multiple levels of controls are in place, and there is a high degree of accountability should errors occur. Without such systems, organizations become vulnerable to errors, with the degree of vulnerability tied to the frequency of errors, capability of identifying errors, potential to track errors, and understanding of the application of corrective measures. Finance and budgeting plans should be sufficiently complex to allow for identification and tracking of errors, but not so complex that it becomes difficult to follow the trail or to comprehend the plans and its projections. Although unintentional errors related to finance and budgeting are critical, these issues become more critical when there is malevolent intent to misguide the finance and budgeting processes of an organization.

Financial decisions and budgeting plans are founded upon the information available and the people involved in making the decisions and developing the plans. Those who make the decisions and utilize the budgets need to be able to understand the outcomes of finance and budgeting process. If the finance and budgeting plans are too sophisticated for leadership to implement, they will be of little use. The budget plans should include information about spending, revenue, saving, debts, and other budget categories. Additionally, appropriate budget plans have contingency plans that help to guide actions when there is a disruption in the system or needed one-time expenditures. If inaccurate and faulty information is entered into the budget and finance plan, then errors can occur with potentially disastrous results to the financial position of the organization.

One way errors can arise for the finance and budgeting system is from faulty estimates. When a national airline misjudged subsequent costs of jet fuel, they lost millions of dollars and had to add fuel surcharges to their passengers to recoup some of the losses. All too rosy projections about sales, savings, and revenue have frequently been a problem for organizations. This question asks whether the organization is susceptible to these faulty estimates or whether it has processes and controls in place to question and challenge estimates and projections that are not supported by evidence. A multitude of organizations have faced a budget crisis because they relied upon faulty estimates which should have been identified as erroneous by the organizational members in charge of its finance and budgets.

Organizations often receive *misinformation* that impact their finances and budgets. Sometimes this information comes from competitors who want to influence the organization's decisions by providing information that may change the organization's behavior (e.g., pricing structure,

intention to offer a product, claims of patent infringement). The organization is then placed at a competitive disadvantage if it relies upon the misinformation for its decisions and actions. At other times, the misinformation may not be malevolent or intentional. A data analyst may enter a value into the forecasting model with an extra zero, which results in projections that are off target. If the organization does not have controls and processes in place to correct the intentional and unintentional misinformation that may enter the finance and budgeting process, it will be highly susceptible to decisions and actions that are detrimental to the organization's budget plans and financial position.

The budget plans and financial decisions of an organization are made by members of the organization. They rely upon the information and estimates that are available. If the budget and financial plans are erroneous by not taking into accounts specific factors and contingencies, then the financial analysts and decision makers are likely to make faulty recommendations and mistaken decisions. Along with the accuracy and adequacy of the financial and budgeting plans, those who work with the plans and the information they produce also have to have to be sufficiently competent to be able to understand the plans and the information they provide. If financial and budget analysts don't understand their plans and the information which results, they cannot accurately and adequately convey the results to those who rely upon the information. Similarly, if those who make decisions for the organization do not understand the information derived from the financial and budget plan and its implications, biased and inappropriate decisions are likely to result.

An organization's financial and budgeting process rests upon the information it uses. If the information is faulty or insufficient, whether intentionally or unintentionally so, the financial and budgeting process cannot provide the reliable information the organization needs for its decisions and actions. Organizations are more susceptible to misguided decisions and actions if they have no self-corrective processes and controls in place. Also, the capability of the financial and budget analysts and organizational decision makers to understand and properly utilize the information can contribute to whether the organization will be more or less susceptible to misinformation, faulty estimates, and deficient processes. All of these factors can put the financial strength and potential survival of the organization at risk.

Relevant Research Literature

Biegelman, M.T., & Bartow, J.T. (2006). *Executive roadmap to fraud prevention and internal control: Creating a culture of compliance*. Hoboken, NJ: John Wiley & Sons.
Brealey, R.A., & Myers, S.C. (1996). *Principles of corporate finance*. New York: McGraw-Hill.

4.5 Indoctrination & Socialization Subsystem: Overview

The ways that individuals become identified members of the organization and internalize its norms and ideology

Summary

Organizational indoctrination/socialization refers to the ways that individuals become identified members of an organization and internalize its norms and ideology. This is a process in which new members adjust to the organization, the other people in the organization, their positions in the organization, and the tasks they are expected to perform for the organization.

Organizations of all types function based on common practices. From businesses to religions, each has adopted certain ideologies, norms, and strategies that hold the organization together once it is established. While the goals of organizations and the degree to which they rely upon an Indoctrination/Socialization process may differ, there are common threads regarding how they maintain their members and convey their expectations to those members. Whether appealing to the individual or those with a more collective mentality, organizational survival is dependent upon an ability to maintain and grow membership.

Once an individual has become part of an organization, they need to learn how to function within it, coming to understand how it operates and the expectations of those who belong.

Organizational tenets can be conveyed explicitly through statements and demonstrations of what is expected, and implicitly through observations of those who currently belong.

Explicit expectations are those that are clearly conveyed without need for interpretation. These are the foundational beliefs and behaviors that are deemed necessary for organizational survival. Depending on organizational goals, these ideals may appeal more to an individual's need to fulfill their own needs or desires; or, they may be structured to speak to those seeking a sense of belonging, addressing a more collective mentality. Regardless of method of conveyance, the organization's message needs to have mass appeal and the ability to influence member perceptions to maintain cohesiveness.

Implicit expectations are those not explicitly stated but conveyed via the behavior of an organization's members; behaviors that are consistently observed. For example, if members greet each other in a consistent manner, one may imply that such greetings are expected. If observations indicate that male and female members are treated in different ways, this could be another indicator of implicit expectations.

Understanding an organization's Indoctrination/Socialization subsystem is important because it provides insight into the expectations the new members have for the organization as well as the expectations the organization has for the values, attitudes, and behaviors of the new members. If an organization ignores the indoctrination and socialization process, the members may not agree with the organization's objectives and values, and may be unwilling to engage in the desired behaviors. Such an organization will be at a disadvantage relative to its competition and would be susceptible to a variety of external influences because it doesn't have a shared view about the organization or how it responds to external influences. If an organization devotes significant

resources to indoctrination/socialization, this suggests the organization feels it is important for attracting or keeping members, or in getting those members to behave in a specific, consistent way, or both. As a consequence, most organization explicitly and implicitly provide for indoctrination and socialization of new members. As a consequence, the organization has a means of controlling the values, expectations, and behaviors of its members.

Relevant Research Literature

Most organizational behavior textbooks like those mentioned below will dedicate a chapter or a portion thereof to the discussion of organizational socialization and indoctrination. More substantial discussion of aspects of the organizational socialization and indoctrination process can be found in Wanous (1992).

Heilbruegel, D., & Slocum Jr, J. W. (2004). *Organizational behavior* (10th ed.). Mason, Ohio: South-Western.

Kreitner, R., & Kinicki, A. (2010). Organizational culture, socialization, and mentoring. In R. Kreitner, & A. Kinicki, *Organizational behavior* (9th ed.). New York: McGraw-Hill.

Wanous, J.P. (1992). *Organizational entry: recruitment, selection, orientation, and socialization of newcomers* (2nd ed.). Englewood Cliffs, NJ: Prentice-Hall.

Q1: Ease of Conforming to the Organization

How easy or difficult is it for members to conform to the values, attitudes, and culture of the organization?

Response Scale: Extremely Difficult – Extremely Easy

Summary

Organizational socialization and indoctrination involves the ways that the organization attempts to bring new members into the organization so that they are able and willing to follow the organization's expectations about behavior as well as convey the values, goals, and culture of the organization to new members. Champoux (2010) breaks the organizational socialization process into three steps, all of which help define an individual's role within the organization. The first stage is the choice stage where an individual is deciding to join. At this juncture they are excited, anticipating what lies ahead and looking forward to learning. The second stage is termed entry encounter. This is the stage where individuals begin learning the system, experiencing the reality of the organization. The final stage in the process is what Champoux (2010) termed metamorphosis, the point at which there is a change in one's self-image. At this juncture, individuals have become fully indoctrinated in the organization's culture.

Ease of this socialization process and individuals' subsequent conformity is directly related to how well an organization conveys its expectations. The greater the clarity in their expression, the easier it is for new members to fall in step with expectations. Champoux (2010) again breaks this process into stages, those of being exposed to pivotal role behaviors, relevant role behaviors, and peripheral role behaviors; what you must do, what is desired but not essential, and behaviors that are allowed, but not necessary. As with any other system, the more complex or convoluted the expectations, the more difficult it is to conform. In general, from this perspective, it is important for a new organizational member to learn his or her roles in the organization, internalize the values the organization ascribes to, and to embrace these roles with and on behalf of the organization. New organizational members will be indoctrinated more easily if the organization does not make the socialization process difficult or frustrating.

Alternatively, an organization may make it difficult for new members to conform to the values, attitudes, and culture of the organization, thereby hampering the socialization and indoctrination process. Some organizations routinely change their avowed principles and values making it difficult to know and understand the organizations' values and cultures. Additionally, some organizations have expressed values but the culture and internal operations contradict those expressed values. Therefore, the way an organization conveys its expectations to new members can affect the ease or difficulty with which these expectations are assimilated. In general, organizations with more rapid socialization methods are more successful because members are less anxious, and they are able to become productive within the organization at a faster rate (Hellriegel & Slocum, 2004). The organization's socialization and indoctrination processes can

also provide clues to the types of individuals drawn to a particular organization. If the socialization process is misaligned with the needs from new members, the organization will be inhabited by individuals who do not embrace or follow (or even tolerate) the organization's values, attitudes, and culture. Such an organization is ripe for rebellion. More generally, does an organization appeal to those seeking a sense of community and commitment to the organization's goals or recruit those with a desire to protect their personal interests through their involvement? Knowing who an organization targets as potential new members and how it attempts to indoctrinate and socialize members can be important knowledge for understanding how the organization operates and functions.

Relevant Research Literature

Most organizational behavior textbooks like those mentioned below will dedicate a chapter or a portion thereof to the discussion of organizational socialization and indoctrination. More substantial discussion of aspects of the organizational socialization and indoctrination process can be found in Wanous (1992).

Champoux, J. E. (2010). *Organizational behavior: Integrating individuals, groups, and organizations* (4th ed.). New York: Routledge.

Hellriegel, D., & Slocum Jr., J. W. (2004). *Organizational behavior* (10th ed.). Mason, OH: South-Western.

Wanous, J.P. (1992). *Organizational entry: recruitment, selection, orientation, and socialization of newcomers* (2nd ed.). Englewood Cliffs, NJ: Prentice-Hall.

Q2: Willingness of New Recruits to Conform

How willing are new recruits to conform to the organization's values and behaviors that are considered necessary for the organization's survival

Response Scale: Extremely Unwilling – Extremely Willing

Summary

Organizational indoctrination and socialization involves a set of processes whereby individuals become members of an organization. Once they become members of the organization, the recruits are expected to hold the organization's values and behave in ways expected and accepted by the organization. Messages about an organization's expectations begin before the recruit even enters the organization in the form of impressions made by advertisements, propaganda, or reputation (Champoux, 2010). Once this initial attraction for new members is established, organizational entry (including indoctrination and socialization) is a function of how the organization portrays the benefits of membership as well as how new members can benefit the organization. Wanous (1992) calls this *the mutual adaptation and adjustment* process, which is expected to result in mutual acceptance.

It is important to realize that all of the information about an organization's values and behaviors are received through the filters the new members use. These filters reflect the personal perspectives the new members use to interpret their experiences. Resistance to meeting the organization's behavioral expectations can result from a number of factors. For example, clarity of expression of expectations leads to less speculation about desired behaviors and, by association, greater willingness to commit to the desired actions and less resistance (Champoux, 2010). Additionally, if the new members find the behavioral expectations to be objectionable, such as indoctrination processes of some cults, they may be resistant or may drop out of the organization. Yet, there are processes that organizations like cults use that enhance indoctrination and produce greater commitment to the organization, its values and culture.

The willingness to conform to behavioral expectations and endorse organizational values can result from two major factors. One is the dispositions (e.g., personality) of the new recruit. Some new recruits might be suspicious of the indoctrination and socialization process because they feel they have been misled in the past. Other individuals are "joiners" who enjoy the organizational memberships and the processes involved in being socialized. Also, if the indoctrination and socialization information, formal and informal, is more complicated than the capabilities of the new recruits, it will be confusing to them and reduce their willingness to conform, partly because they don't know what behaviors are required to conform. The second major factor is the situational conditions which include the organization doing the recruiting and the indoctrination and socialization process. If the indoctrination process includes aspects that put the new recruit at risk (hazing, bullying), it can reduce the commitment of the new members to the organization. Also, if the indoctrination and socialization process is lengthy, as with an extended probationary

period, the new recruits may feel that they still aren't complete members of the organization and consequently don't need to completely conform to the values and expected behaviors. A good way to think of willingness of new recruits to conform to the values and behaviors of the organization is to consider it in the context of the U.S. military's recruiting, induction, and general training (i.e., boot camp).

An effective indoctrination and socialization process will provide the organization with members who are willing to conform to the organization's values and perform the expected behaviors. Moreover, they are likely to facilitate the organization in pursuing its goals and missions. With time, some new recruits become may become "true believers" who then willingly pass on the organization's values to others and become part of the informal indoctrination and socialization process.

Relevant Research Literature

Most organizational behavior textbooks like the two mentioned below will dedicate a chapter or a portion thereof to the discussion of organizational socialization and indoctrination. More substantial discussion of aspects of the organizational socialization and indoctrination process can be found in Wanous (1992).

Champoux, J. E. (2010). *Organizational behavior: Integrating individuals, groups, and organizations* (4th ed.). New Youk: Routledge.

Hellriegel, D., & Slocum Jr., J. W. (2004). *Organizational behavior* (10th ed.). Mason, OH: South-Western.

Wanous, J.P. (1992). *Organizational entry: recruitment, selection, orientation, and socialization of newcomers* (2nd ed.). Englewood Cliffs, NJ: Prentice-Hall.

Q3: Effective for Learning New Roles

How effective is the organization's socialization/indoctrination process in leading new members to learn the desired attitudes, values, and behaviors they need to fulfill their new roles?

Response Scale: Extremely Ineffective – Extremely Effective

Summary

One perspective on organizational indoctrination and socialization focuses on new recruits acquiring new roles as essential to becoming a member of an organization. These roles mean that the recruits have learned what is expected of them in their position, what behaviors are acceptable and unacceptable, what ideas and concepts are valued by the organization while others are ignored or not tolerated, and what the expected attitude the new recruit should have for the organization and its goals. For new recruits to learn about their roles, the organization must have indoctrination and socialization processes.

There are a number of ways that new recruits can learn about their roles and expectations from the organization. One way is with the training and recruiting materials that new recruits receive. Often these materials focus more on rights and responsibilities, but they can also convey to the new recruit the general tone of the organization as well as its values and accepted attitudes.

Another way in which new recruits can learn about their roles is during an orientation or induction session. Again, the material presented can show the explicit notions that the organization wants to convey to new recruits (e.g., the new recruits are critical to the organization's success) as well as implicit views of organization values and attitudes (e.g., no one above the session moderator was willing to take the time to welcome the new recruits). New recruits can also learn the explicit and implicit expectations for their roles as part of the training process that occurs for new members of many organizations. This is when the details about expectations, values, culture, and attitudes might be most clearly conveyed. However, even with all of these ways of learning their roles, new recruits can learn from observing existing organizational members. If what the new members see and hear is inconsistent, it becomes more difficult to learn the desired values and behaviors, or exhibit appropriate attitudes toward other organizational members (Kreitner & Kinicki, 2010). As a way to facilitate this learning by observation, it is also helpful if existing members behave as expected, express the desired values and attitudes, and support an organization's expectations through their words and actions.

There are important consequences of organizations effectively leading members to learn the attitudes, values, and behaviors they need to fulfill their new roles. Research indicates the rate of early withdrawals from the organization (e.g., leaving, absences) drop dramatically with effective socialization and indoctrination programs, and the new recruits are also likely to stay longer with the organization. Additionally, there is strong evidence that the morale and

satisfaction of new recruits remains high if the indoctrination and socialization process teaches them what they need to know (Kreitner & Kinicki, 2010). Importantly, there is also good evidence that new recruits knowing their roles reduces role ambiguity and role conflict, both of which contribute to organizational stress. There is also evidence that there are negative reactions and an erosion of confidence when organizational leaders engage in activities or behaviors that run counter to the explicit and implicit expectations expressed by the organization (e.g., do as I say, not as I do).

Relevant Research Literature

Most organizational behavior textbooks, like the two mentioned below, will dedicate a chapter or a portion thereof to the discussion of organizational socialization and indoctrination. More substantial discussion of aspects of the organizational socialization and indoctrination process can be found in Wanous (1992). Katz and Kahn (1978) have an extended discussion of roles as well as an overview of how this contributes to stress.

Champoux, J. E. (2010). *Organizational behavior: Integrating individuals, groups, and organizations* (4th ed.). New York: Routledge.

Hellriegel, D., & Slocum Jr., J. W. (2004). *Organizational behavior* (10th ed.). Mason, OH: South-Western.

Katz, D., & Kahn, R.L. (1978). *The social psychology of organizations* (2nd ed.). New York: John Wiley & Sons.

Kreitner, R., & Kinicki, A. (2010). *Organizational behavior* (9th ed.). New York: McGraw-Hill.

Wanous, J.P. (1992). *Organizational entry: recruitment, selection, orientation, and socialization of newcomers* (2nd ed.). Englewood Cliffs, NJ: Prentice-Hall.

Q4: Effective for Adjusting to Workgroup Norms

How effective is the organization's socialization/indoctrination process in leading new members to adjust to the new organization as well as the workgroup and its norms and values?

Response Scale: Extremely Ineffective – Extremely Effective

Summary

When organizations try to recruit new members, they generally focus on indoctrinating and socializing the recruits to the organization's values, attitudes, and culture. They also train the recruits in the desired and expected behaviors they should perform. Orientation sessions often focus on introducing the recruit to the organization's policies and procedures. However, such a socialization process often overlooks critical features of the new members' positions, such as the supervisor and other members with whom the recruit will have direct and frequent interaction. This question assesses the effectiveness of the organization's indoctrination and socialization process in leading new members to adjust to the assigned workgroup and its norms and values. Most efforts in organization occur within the context of a workgroup. Often the success or failure of a new recruit to meet organizational expectations results from the recruit's interactions in the workgroup. [When discussing the workgroup, it is implied that this includes the new member's immediate supervisor as a member of the workgroup.] These workgroups also have values that they expect all members to uphold. And importantly, workgroups will have norms about behavior with regard to many aspects of the workgroup setting (e.g., birthday gatherings, absences, treatment of assistants, outside-of-work activities). These values and expected behavior give the workgroup an atmosphere or subculture that is critical to appreciate. Initially, it is within this workgroup context that the new recruits' efforts will be primarily directed. Organizations can foster better relations between the new recruit and workgroup members if the indoctrination and socialization process includes the workgroup and immediate supervisor. This indoctrination and socialization process can help improve the fit of new recruits with their supervisors as well with their workgroup. An effective socialization process will foster a desire on the part of the new recruit to fit in quickly so that he or she can be an important contributing member of the workgroup. The socialization and indoctrination process can help the new recruits understand their role in the workgroup. Also, it can also motivate the new recruit to enthusiastically pursue their role in the workgroup.

Although workgroups are the building blocks of many organizations, they are not necessarily effective (Zander, 1994). A slacker, deviant, or bad apple can spoil the efforts of the entire workgroup. When a dysfunctional individual is inserted into a workgroup, tremendous destruction can occur to the workgroup, the network of formal and informal relations in the

organization, and the organization itself (e.g., single rogue traders have bankrupt more than one financial organization). It is by having effective indoctrination and socialization in the organization's and workgroup's values, norms, and cultures that the potential calamities of organizational rogues can be more likely averted.

Relevant Research Literature

Most organizational behavior textbooks like the two mentioned below will dedicate a chapter or a portion thereof to the discussion of organizational socialization and indoctrination. More substantial discussion of aspects of the organizational socialization and indoctrination process can be found in Wanous (1992). The discussion of workgroups draws upon Zander (1994) and Hackman (2002).

Champoux, J. E. (2010). *Organizational behavior: Integrating individuals, groups, and organizations* (4th ed.). New York: Routledge.

Hackman, J.R. (2002). *Leading teams: Setting the stage for great performances*. Boston: Harvard Business School Press.

Hellriegel, D., & Slocum Jr., J. W. (2004). *Organizational behavior* (10th ed.). Mason, OH: South-Western.

Wanous, J.P. (1992). *Organizational entry: recruitment, selection, orientation, and socialization of newcomers* (2nd ed.). Englewood Cliffs, NJ: Prentice-Hall.

Zander, A. (1994). *Making groups effective*. San Francisco: Jossey-Bass.

Q5: Emphasize and Dedicate Resources

How much does the organization emphasize socialization/indoctrination of new members and dedicate resources towards socialization/indoctrination?

Response Scale: Almost no emphasis – Almost complete emphasis

Summary

Indoctrination and socialization of new members is important for organizational effectiveness. Organizations find that tenure in the organization, morale, role clarity, and overall effectiveness of members improve when new members are properly socialized and that the stresses associated with joining an organization are reduced. As a consequence, the degree to which organizations emphasize and dedicate resources toward organizational socialization and indoctrination can tell us much about the way the organization operates and functions and the value it places on effectively bringing new recruits into the organization to become its members. The emphasis and dedication of resources to indoctrination and socialization also provides clues to the priority the organization places on membership retention, stable (or growth) membership levels, and then indirectly, the strengths and weaknesses of the organization in terms of membership.

According to Kreitner and Kinicki (2010), groups that want to retain members tend to have a more internal focus. This focus can be expressed through what is termed a clan culture or hierarchy culture (Kreitner & Kinicki, 2010). A hierarchy culture is more structured, focusing on stability and control. By contrast clan cultures seem more focused on cultivating members through reward, with rewards leading to higher morale and greater levels of commitment (Kreitner & Kinicki, 2010). Both of these approaches have applicability to businesses and other types of organizational structures that have defined goals.

Organizations focused on membership growth tend to have a more external focus. Kreitner and Kinicki (2010) offer examples of adhocracies in which workgroups and alliances may be short lived and market-focused organizations are more external focused. The adhocracy reflects an organization that is responsive to change, thus having a message or producing products that are more in tune with current trends. A market model focuses on the organization's ability to satisfy those they serve, rewarding members according to level of satisfaction achieved (Kreitner & Kinicki, 2010). The goals of these types of organizations are creativity and competitiveness respectively (Kreitner & Kinicki, 2010).

Understanding how organizations might be either internally or externally focused, taking hierarchy, clan, adhocracy, or market approaches can be useful because this reflects whether the organization is dedicating resources to maintenance or growth as well as provides clues to its future goals. Is the organization more concerned with keeping its current members in place and allocating resources to their benefit or are resource expenditures more growth-focused with little

dedicated to membership maintenance? Such knowledge can provide information about the organization as well as the members it will recruit while also revealing some of the motivations of the organization's membership.

Organizations can make two types of mistakes with regard to indoctrination and socialization. The first is to ignore, disregard, or deemphasize indoctrination and socialization as a priority. The consequences of such an approach is an organization with members who may feel no commitment to the organization or its goals, conflict among members because they inherently disagree about important aspects of their roles in the organization, a lack of solidarity or community among the members, an absence of organizational culture, a politicized and stressful work environment, and a management challenge. The second mistake is to have indoctrination and socialization processes that are misguided or misdirected such that it contributes to organizational ineffectiveness. The processes might try to indoctrinate members for an organization that doesn't accurately reflect the one they are joining. The processes might foster attitudes and values that are not aligned with those endorsed by the organization or inconsistent with the organization's goals. The socialization might ask new recruits to learn beliefs and actions that are incongruent with the roles they are expected to take. Additionally, the indoctrination and socialization processes might target surface level issues but ignore the deeper level understanding that new recruits require to quickly become effective contributors to the organization. Either of these two kinds of mistakes will contribute to long term problems for the organization and its survival.

Relevant Research Literature

Most organizational behavior textbooks like the three mentioned below will dedicate a chapter or a portion thereof to the discussion of organizational socialization and indoctrination. More substantial discussion of aspects of the organizational socialization and indoctrination process can be found in Wanous (1992).

Champoux, J. E. (2010). *Organizational behavior: Integrating individuals, groups, and organizations* (4th ed.). New York: Routledge.

Hellriegel, D., & Slocum Jr., J. W. (2004). *Organizational behavior* (10th ed.). Mason, OH: South-Western.

Kreitner, R., & Kinicki, A. (2010). *Organizational behavior* (9th ed.). New York: McGraw-Hill.

Wanous, J.P. (1992). *Organizational entry: recruitment, selection, orientation, and socialization of newcomers* (2nd ed.). Englewood Cliffs, NJ: Prentice-Hall.

Q6: Exchange of Honest Information

To what degree do potential recruits and the organization provide honest information about each other (rather than raise false expectations) during the socialization process?

Response Scale: Not at all honest exchange – Almost always honest exchange

Summary

The evidence from organizational research clearly indicates that an exchange of honest information from the new recruit and the organization will make selection of recruits and their entry into the organization more effective. It will be mutually beneficial to the recruit and the organization. This viewpoint is described as “match” in which both desires and expectations are honestly exchanged so that recruits choose the right organizations and organizations choose the right recruits. A consequence of this match based on the honest exchange of information is that there is also a better “fit” between the organization and its membership.

When new recruits join an organization, they have desires and expectations they hope will be fulfilled. As they mature in their positions in the organization, the new members also will attempt to influence the organizations they inhabit. At the same time, to help the recruits mature in their positions, organizations attempt to introduce new members to the work environment, acquaint them with their co-workers and supervisors, and train them about what is expected of them in their positions such as the content of the jobs, tasks, and duties they will perform.

Information about the job content should be presented in a manner so that it is perceived as challenging but also so that the new member believes and is capable of producing successful performance. Again, an honest exchange of information between the new member and the organization will make this process more effective. Some organizations provide potential recruits with realistic job previews in which the potential member actually performs important aspects of the position so they know what their membership in the organization will entail.

Organizations and members need to be honest in the information exchanged during recruiting so that false expectations are not created. Organizations and individuals need to be concerned about unrealistic expectations from each other. If unrealistic expectations or false hopes are allowed to exist, it leads to disappointment or disillusionment on the part of both parties. Moreover, ineffective matching is costly both to organizations and their potential members. A mismatch between job requirements and member abilities affects job performance. However, sometimes the organization is so desperate for new recruits that it will overlook critical aspects of the new recruits, only to become sadly aware of their limitations later on. Similarly, some individuals are so drawn to an organization that they will provide false and misleading information just so they can gain membership. These individuals could really need a job or really want to belong and may say what they believe is needed to get them in the door. Generally speaking, when perceived

need is high on the part of either the organization or new recruits, there is more of a tendency to hide their negative aspects at least until indoctrination has occurred.

Relevant Research Literature

Most organizational behavior textbooks like the two mentioned below will dedicate a chapter or a portion thereof to the discussion of organizational socialization and indoctrination. More substantial discussion of aspects of the organizational socialization and indoctrination process can be found in Wanous (1992). The material discussed above is based primarily on Wanous (1992).

Champoux, J. E. (2010). *Organizational behavior: Integrating individuals, groups, and organizations* (4th ed.). New York: Routledge.

Hellriegel, D., & Slocum Jr., J. W. (2004). *Organizational behavior* (10th ed.). Mason, OH: South-Western.

Wanous, J.P. (1992). *Organizational entry: recruitment, selection, orientation, and socialization of newcomers* (2nd ed.). Englewood Cliffs, NJ: Prentice-Hall.

4.6 Information Subsystem: Overview

The ways the organization directs, controls, stores, monitors, and distributes information and the technology used to do so.

Summary

An organization's information system involves the processes by which it directs, controls, stores, monitors, and distributes information; and the technology it uses to do so. The information system is used to facilitate communication within and between organizational subsystems, both horizontally and vertically (up and down the command hierarchy.) It is vital to a host of organizational functions including competitive intelligence, decision making, command, coordination, standardization, assessment and feedback; just to name a few.

Organizations can be thought of as information processing units. An organization's information system is used to gather, analyze, synthesize, interpret, distribute and store information. This processing is applied to information coming from the external environment and also to internally-generated information. Similarly, information is distributed within the organization and also to the external environment. This information is used to influence the organizational objectives to be pursued as well as how it will accomplish these objectives.

Organizations cannot exist without having an information system that contains *useful* information upon which to base its decisions (Hodge, Anthony, & Gales, 1996). The key aspects of useful information include:

- 1.) Quality: information must provide an accurate representation of reality to enable confident decision-making;
- 2.) Timeliness: information must be obtained with sufficient time to make a good decision or avoid making a bad one;
- 3.) Quantity: information must be at the right level of detail (i.e., enough information to support informed decisions while avoiding information overload);
- 4.) Relevance: information must be relevant to the decision making process it is intended to serve;
- 5.) Accessibility: information must be accessible to those in the organization who need it to achieve organizational objectives, and also restricted from those who would potentially use the information to harm the organization.

Every organization uses different forms of communication and varying philosophies when sharing information. Distributed organizations in dynamic, competitive operating environments may be concerned with timeliness and quantity of information and thus rely heavily upon computer and internet-based technology to increase the speed at which information can be shared and the amount of information that can be accessed. Vast amounts of data can be found and exchanged at a relatively low cost using electronic media. Conversely, organizations that are small and centrally located, that rely upon real-time, in-depth exchanges among two or more individuals, or that act in an extremely clandestine manner (e.g., not wanting to risk leaving an incriminating trail) may tend to avoid electronic communications in favor of more face to face

interactions. Such interactions may be more secure, more meaningful, and allow more efficient passing of complex information that must be examined from multiple perspectives. Shortcomings in any of the informational attributes pose a vulnerability to the information system and to the organization. Information systems can be exploited if their vulnerabilities are well understood and can be used as potential pathways of influence. Organizations that rely on information arriving at an ideal point in time can become vulnerable if there is a delay in delivering or processing the information they need to make strategic decisions. If the organization needs information to be accessible at all times it may become vulnerable if the members who hold the information cannot be reached or if information is misplaced or stored in a location that only certain members can access. All organizations can be at risk if the information they receive is inaccurate; making decisions based on erroneous information they believe to be true. Deficiencies in any of these areas can lead to vulnerabilities that may be exploited and may threaten the organizations existence.

Related Research Literature

General textbooks on management or organizational performance typically offer overviews of information systems. Below are two good examples.

Hodge, B.J., Anthony, W.P., & Gales, L.M. (1996). *Organization theory: a strategic approach* (5th ed.). Englewood Cliffs, NJ: Prentice-Hall.

Macdonald, Stuart. (1998). *Information for innovation: Managing change from an -information perspective*. New York: Oxford University Press.

Q1: Accuracy

To what degree does the information system provide accurate information?

Response Scale: Information provided is almost never accurate – Information provided is almost always accurate

Summary

This question is concerned with the degree to which information the organization uses to make strategic and operational decisions accurately reflects reality. Information is the lifeblood of the organization and is useless if inaccurate. Through careful examination of both internal and external environments, organizations identify information needed to guide day to day activities as well and make strategic decisions and plan for the long term success of the organization. Information is used to understand the operational environment, internal processes, relevant technologies, competitors, and enemies. Commercial and political organizations also spend large amounts of time and money to understand and please their “customers” (i.e., consumers and constituents). Without accurate information regarding market trends and consumer wants/needs, the organization has little future direction. Accurate information in all areas is critical to assessing what the organization must do to gain or maintain its competitive edge. Above all, without high quality, accurate information, the organization will struggle to succeed.

The organizational literature suggests that the level of information quality/accuracy directly influences the quality/accuracy of the decisions made by the organization. Decision-makers can only make confident, sound decisions if they have information sources they believe to be of high quality and accuracy; so organizations in highly competitive environments, including military organizations, invest heavily in information systems. They develop extensive intelligence and market research networks to bring accurate information into the organizations. They invest heavily in computer and communications systems to ensure that vast amounts of accurate information can be available to and distributed among their members. Finally, when awareness outside the organization is essential, they invest in public relations, marketing, recruiting, and public service functions to ensure that messages from the organization are accurately conveyed outside the organization.

There are challenges associated with assessing information quality and accuracy. Recognizing accurate data can be a complicated and involved task, requiring time, money and often, experience. In order to ensure the accuracy of information an organization may utilize one or more of many approaches. These include direct observation, utilizing sources that have a long-term record of accuracy, and relying on recognized experts. One of the most reliable sources of accurate information is the direct observance of a series of activities or communications. Often expensive and not always practical or available, direct observation is likely to produce highly accurate information. Another good way to access reliable information is to use sources that have proven to be accurate in the past (e.g., if an informant accurately predicted the time and location of the last three enemy leadership meetings, then their information on the next meeting is likely

accurate.) An organization can also rely on individuals who are already recognized as experts in a specific field. They are likely to have a better understanding of the sources of accurate information, are better able to recognize false data, and have increased knowledge of both the internal and external environment, enabling them to foresee any unknowns that might exist. When information accuracy cannot be effectively verified through these methods, a potential vulnerability exists. If an organization relies on and trusts a specific source for much or all of the information it needs, decision makers are likely to believe anything that source provides them with little or no question. This can work to the detriment of the organization. If an organization fails to monitor and assess its internal and external environments sufficiently, it may have no means for distinguishing between accurate and inaccurate information. Lastly, if the organization fails to identify the unknowns in their market or environment, it may miss potential sources of information that could help it further stabilize the organization, avoid sudden competitor advantage, or uncover a new need or desire from the customer.

Related Research Literature

General textbooks on management or organizational performance typically offer overviews of information systems. Below are two good examples.

Hodge, B.J., Anthony, W.P., & Gales, L.M. (1996). *Organization theory: a strategic approach* (5th ed.).(Chapter 9) Englewood Cliffs, NJ: Prentice-Hall.

Daft, R.L. (2010). *Organizational theory and design* (10th ed.). (Chapters 3 & 13) Mason, OH: South-Western Cengage Learning.

Q2: Timeliness

To what degree does the information system provide timely information?

Response Scale: Information provided is almost never timely – Information provided is almost always timely

Summary

This question encompasses two key aspects of information: *timeliness* and *currency*. Timely information is that which is obtained by decision makers in enough time to make effective decisions and execute the subsequent actions. Information currency is also time-related. It involves the extent to which information regarding a dynamic situation is *still* accurate at the time decisions are made and actions are taken.

Even the timeliest information can be considered historic (Hodge, Anthony & Gales, 1996) in that it is current only in the moment it is collected. When analyzing information, organizations generally strive to use the most current information available, as they are most closely relevant to the conditions at that very moment. Currency increases the usefulness of information and enhances the confidence and likelihood of accurate decision-making. For example, if a law enforcement organization is trying to apprehend a suspect on the move, they rely heavily upon the most current intelligence regarding the suspect's location. If that information is no longer current, they may fail in their efforts.

Although current (or very recent) information is the most useful, it may not be necessary or readily available to organizations. For example, some information is relatively stable over time, and therefore, it is unnecessary to continually monitor for changes. Other information may be too costly to update continuously, so it is gathered periodically and projections based on historical information are used between information gathering periods (e.g., profitability, sales, taxes owed). Conversely, some organizations work with highly *dynamic* information (e.g. weather agencies, news organizations, military units in combat). Thus, they must constantly monitor information sources to keep their information current. For example, some organizations provide products with 'just-in-time' inventory and so need to know what its inventory is for critical parts). Organizations should be aware of the degree to which relevant conditions surrounding them are dynamic, and should strive to update their information at a rate appropriate to the rate of change in their environments.

Information, no matter how current, is rendered useless if it is not delivered to the appropriate individual or group in enough time to decide and act upon the information and to coordinate with other organizational units who may be affected by the decision at hand. The speed with which information is collected, analyzed, and delivered to the decision-making authority can be the difference between an exceptional competitive advantage and a lost opportunity. For example, if a military organization is to capitalize on intelligence regarding a pending enemy attack, that information must arrive in time for the decision makers to evacuate, fortify defenses and/or prepare a counter-attack. Similarly, in a business setting, opportunities to secure a new market or

make a sale can and will be missed if the information needed to make such decisions is not received in a timely manner.

The extent to which an organization's objectives rely on timely and current information will influence the type and amount of resources it devotes to obtaining and disseminating that information. The more an organization is dependent upon timely and current information, the more vulnerable that organization is to failures in this aspect of its Information Subsystem. A clear vulnerability would exist if an organization operates in a highly dynamic environment without the informational resources to understand the current state of that environment or the mechanisms to rapidly convey that state information to decision makers. Even if the critical information is available to some members of the organization, if that information cannot be quickly and effectively conveyed to the decision makers, it will be of little value. Decision makers will be forced to rely on assumptions and projections from older historical instead of current information, resulting poorer decision quality. The obvious risk associated with using historical information is that the information may already, unknowingly, be so out of date that it portrays a misleading picture of the current state of the world.

Related Research Literature

General textbooks on management or organizational performance typically offer overviews of information systems. Below are two good examples.

Hodge, B.J., Anthony, W.P., & Gales, L.M. (1996). *Organization theory: a strategic approach* (5th ed.). (Chapter 9) Englewood Cliffs, NJ: Prentice-Hall.

Daft, R.L. (2010). *Organizational theory and design* (10th ed.). (Chapter 8) Mason, OH: South-Western Cengage Learning.

Q3: Relevance

To what degree does the information system provide relevant information?

Response Scale: Information provided is extremely irrelevant – Information provided is extremely relevant

Summary

This topic involves the degree to which an organization's information system provides information relevant to organizational decisions and actions, and also the degree to which the relevant information is provided in appropriate volume or detail. Each organization needs to ensure that the information it collects and uses is relevant to organizational decisions and relevant to the individual(s) deciding and acting upon the information. Irrelevant information is *noise* that serves only to cloud the decision-makers' minds. The information system must provide sufficient relevant information for an educated decision to be made, but must avoid providing an excessive amount of information that could lead to information overload.

The organizational literature discusses two main points regarding the relevance of information; deciding what information is relevant and to whom the information is relevant. Both of these factors depend largely on the individual(s) who need the information. "User-based" information has a pre-determined purpose or expected use even before it is collected. It can be argued that unless information as an identified "consumer" within the organization, it should not be collected and introduced into the information system. Additionally, the individual or group who needs the information is responsible for determining the best format in which to present the material, what reporting method is most effective, and what quantity of information is needed. *User-friendly* information is information provided in such a way that it is easy to understand and use, and it is greatly enhanced by input and suggestion of the end-user. Information gatherers should also be sure that the quantity of information they are presenting is not too little or too much; it should be enough to make an informative decision but not enough to cause cognitive overload. In addition the correct level of detail should be provided to the proper level of management; i.e. top level managers only need overarching summary information whereas lower-level line workers might need very precise detail. Providing relevant, user-based and user-friendly information increases the likelihood that the information will be easy to digest and utilize.

Several vulnerabilities exist when it comes to identifying, locating and presenting relevant information. One vulnerability is the inability to find *enough* information. Many times the search for information comes back with lackluster results leaving organizational leadership without much information on which to base critical decisions. Conversely, if there is too much information a decision maker may not be able to easily understand what is relevant and what is not. This can lead to poor and/or delayed decisions. Further, if the information is not clearly and concisely formatted to the needs of its consumers, it could pose a threat to sound decision making. Finally, even the most organizationally relevant information will be useless if it doesn't reach the decision makers empowered to use and act upon it.

As a result of these vulnerabilities, organizations can be exploited with regard to information and its relevance. Strategies to negatively impact an organization's information subsystem include over-loading it with large quantities of irrelevant information that serves to "bury" information that is actually relevant, and providing information that is convoluted and impossible to understand which will result in the organization spending too much time and money to sort through it to find meaning. Additionally, the organization can be tempted by the notion of better and better- or perfect information. Falsely advertising the existence of exceptional information at a high cost is another way to exploit this weakness.

Related Research Literature

General textbooks on management or organizational performance typically offer overviews of information systems. Below are two good examples.

Hodge, B.J., Anthony, W.P., & Gales, L.M. (1996). *Organization theory: a strategic approach* (5th ed.). (Chapter 9) Englewood Cliffs, NJ: Prentice-Hall.

Daft, R.L. (2010). *Organizational theory and design* (10th ed.). (Chapters 3 & 13) Mason, OH: South-Western Cengage Learning.

Q4: Internal Accessibility

To what degree does the information system make information accessible to members who need it?

Response Scale: Information almost never accessible to members – Information is almost always accessible to members

Summary

This topic addresses the extent to which information that is available to one individual or group within an organization is readily shared with other individuals or groups within the organization who may benefit from having it in performing their organizational role. It involves both passive sharing of information (i.e., it is accessible to members if they want it—members “pull” the information), and active sharing (i.e., it is disseminated or “pushed” to members). It also involves the extent to which individuals or groups actively restrict information distribution to other members or groups within the organization. Clearly some pieces of information should have a limited audience, even within an organization. Some information is simply too personnel-sensitive or competition-sensitive to share with the entire organization. For example, law and accounting firms protect sensitive information about their clients; military organizations protect sensitive battle plans that, if leaked, would do great harm. Most members understand this and can feel reassured that their organization will act to keep certain information close-held. *However, this question focuses on the situation where members are assumed to have a work-related need for the given information and the extent to which that necessary information is made available to them.*

It has long been said that “knowledge is power”, and knowledge comes in the form of information. As a result, the degree to which information is shared with or restricted from members of an organization can reflect the degree to which members are empowered within that organization. Empowered members tend to do their jobs more effectively and have higher levels of motivation. They are more likely to feel that the organization has faith in them and shows trust them by providing them with higher responsibility and a greater stake in the organization’s success. (Daft, 2010)

Organizations typically use both vertical and horizontal approaches to share information. They use *vertical information sharing* to coordinate activities between the upper levels of management and the lower level employees for the purposes of keeping the organization under control. Management and line workers must have common goals and be aware of what each other are saying and doing. To accomplish this, organizations have hierarchies as well as formal rules and plans and the use of regular reporting methods to relay information. Organizations use *horizontal information sharing* to communicate across or between organizational departments. This minimizes barriers between organizational areas and fosters teamwork and coordination among

employees resulting in a unified effort to meet organizational goals. Encouraging direct contact between individuals, creating liaison roles between departments as well as utilizing electronic information systems increases the likelihood of horizontal information sharing. Clearly differentiated roles and responsibilities within an organization can also help foster information sharing, as members will tend to compete less with their colleagues and will be more likely to share critical information. (Daft, 2010)

A willingness and intent to share information within an organization is not enough, however. The organization must also put mechanisms in place to facilitate information exchange. This information could come in a number of forms including those where information is pushed (e.g., regular meetings, memos, conference calls, briefings, emails) and where information is pulled (e.g., databases, servers, internal websites, file cabinets, libraries). The key is whether the members know essential information is available and whether they can easily access it. Ideally it is available to them without them having to ask for it or request permission to access it, as this hampers information exchange.

Accessibility of information is often a key determinant of a decision maker's preference for information sources. Logically, we would always seek out information from the most reliable, accurate source. In practice, however, it has been shown that decision makers often rely on the information that is the *easiest to obtain*. This could be attributed to agency theory, which suggests that individual members ("agents") want to minimize the amount of effort they expend in their work. But a tendency to rely on the most accessible information may also be driven by the time-critical nature of decisions and pressure for rapid answers. In such cases, information seekers and decision makers may not want to spend the time and resources to acquire the most accurate information, may not have access to or ability to easily interpret highly technical information, or may even be motivated to seek information from a single accessible, though less reliable, source. (Hodge, Anthony, & Gales, 1996).

Vulnerabilities associated with poor information accessibility come in two primary forms. If critical information is not made accessible to decision makers, or if they are not aware of its existence, organizational decision quality will suffer. The fact that the most accessible information is often the most acted upon (even if it is of lesser quality) can be exploited in influence operations. Secondly, organizations can be vulnerable if members feel key information is not being shared. If they believe information is being withheld from them without good reason or that only certain 'special' people are receiving the information, members will become bitter and may lose trust in the organization. If so, these members may be more likely to harm the organization through lack of productivity, a negative attitude, separation from the organization, or even sabotage.

Related Research Literature

General textbooks on management or organizational performance typically offer overviews of information systems. Below are two good examples.

Hodge, B.J., Anthony, W.P., & Gales, L.M. (1996). *Organization theory: a strategic approach* (5th ed.). (Chapter 9) Englewood Cliffs, NJ: Prentice-Hall.

Daft, R.L. (2010). *Organizational theory and design* (10th ed.). (Chapters 3 & 13) Mason, OH: South-Western Cengage Learning.

Q5: Protect information from external access

To what degree does the information system protect sensitive information from being shared outside the organization?

Response Scale: Sensitive information is almost never protected – Sensitive information is almost always protected

Summary

This question addresses the extent to which an organization protects vital and sensitive information from being exposed to external entities. Most organizations have important information that they *want* to disseminate far and wide (e.g., public relations, marketing or lobbying, fundraising, recruiting materials). They may also have information they are *forced* (by law) to make public (e.g., quarterly reports, stock trades made by company officers). At the same time, however, they may also have information they want to *keep secret* or hidden from the public, competitors, and enemies (e.g., proprietary technology, strategic and tactical plans, vulnerabilities, internal strife). This question focuses on the latter; the degree to which the organization protects information that could be harmful if shared with external entities.

Most organizations have aspects of their existence that need to be kept hidden from external entities. This includes information that could be embarrassing or incriminating, information that would result in lost stakeholder trust or goodwill if released, and information that could give competitors an advantage. To protect against such information leaks, organizations can establish a number of measures meant to safeguard the sensitive information. Personnel are often screened for trustworthiness (e.g., background checks, security investigations) and sign legal documents promising to safeguard the organization's information (e.g., non-disclosure agreements, proprietary information agreements, non-compete agreements). Physical measures are often put in place to limit access to sensitive material (e.g., safes, vaults, secure areas) and documents are destroyed when no longer in use. Software and communication devices are often protected through the use of encryption, complex and frequently-changed passwords, and limits on devices that can access sensitive networks. In addition, many organizations have mechanisms in place to clear through a formal review process any material that is intended to be made public.

Organizations often continuously monitor for information leaks and even hire people to test their information security processes.

Obviously, organizations that fail to protect their sensitive information can be quite vulnerable. Organizations are vulnerable to information leaks by both personnel and by information system hardware/software/networks. Similarly, approaches to exploiting such vulnerabilities can vary widely. These include gathering intelligence through review of publicly available documents,

physical theft, blackmail, bribery, computer hacking, technological surveillance, and “moles” planted inside the organization.

Relevant Research Literature

For a good overview of information protection practices, see the following:

Andress, J. (2011). *The basics of information security: Understanding the fundamentals of InfoSec in theory and practice*. Waltham, MA: Elsevier.

EMC Education Services (2009). *Information storage and management: Storing, managing and protecting digital information*. Indianapolis, IN: Wiley.

Q6: Information Utilization

To what extent is available information utilized in organizational decision making?

Response Scale: Available information is almost never used – Available information is almost always used

Summary

This question addresses the degree to which seemingly available information is utilized by the organization to make critical decisions. A failure to use such information might indicate certain vulnerabilities in the information system; however, it might also indicate limitations of the organization's decision making processes.

The previous questions under this subsystem address specific aspects of the organization's information system (i.e., the timeliness, accuracy, relevance, and accessibility of information) and lead the analyst to consider the effectiveness of each of these individual aspects from a "bottom up" perspective. This question takes a "top down" view and simply asks whether there are signs that information is not being utilized or acted upon. From a classic "economic" decision making perspective, organizational decision makers will act "rationally"; understand all available alternative choices, comprehend the consequences or outcome of each choice, and have a means by which to rate the utility of each outcome. If an organization appears to arrive at irrational decisions, it could indicate a failure to understand one or more of these aspects.

It should be noted, however, that sub-optimal decisions can be made even when decision makers are equipped with the information required to make a fully rational decision. Evidence from research on decision making indicates a number of factors can lead organizational decision makers to overlook, ignore, or under/over-value critical information when making decisions. A number of biases are introduced when people have a limited capacity to process all of the information that is available. When faced with limited time or capacity to fully process all information, to consider all possible alternatives and outcomes, people often fall back on a number of shortcuts or "heuristics" to help us deal with uncertainty. These are often (but not always) practical, adaptive approaches that can help us better function in the face of time pressure and the unknown. There are numerous cognitive biases that have been demonstrated reliably over the years. Below, we list just a few:

Belief Bias: A tendency to value the strength of an argument based on the believability of the conclusion.

Confirmation Bias: A tendency to seek out or weigh more heavily information that confirms what we already believe

Framing Effects: Reacting to information based on whether it is portrayed as being a loss or a gain

Illusory Correlations: Seeing relationships between two groups or events when they in fact do not exist

Optimism Bias: A tendency to overestimate the probability of favorable outcomes

Ostrich Effect: A tendency to ignore unfavorable situations (potential or actual) Because such biases impact how we consider available information (i.e., they lead to clouded assessments of information availability, information value, outcome probabilities, and outcome desirability), these biases will often lead to sub-optimal decisions.

In addition to limitations in how the decision maker utilizes available information, the organization's policies and procedures may also limit the utilization of information. For example, if information has to pass through the chain of command or to be vetted before it can be included in an analysis or recommendation, then it may not be utilized by decision makers. Similarly, because some organizational members may view information as power, and because they can disseminate information at their own discretion, they may not share the information with those who need it for analysis or making a decision. This is one example of some of the social biases that also interfere with organizations utilizing all the information available (Janis, 1989). So, there are individual, social, and organizational factors that can restrict the full utilization of information that is available.

Whether organizations fail to utilize vital information due to breakdowns in the information system or due to biases in decision making, this failure can put the organization in a very compromised position. A failure to incorporate full and unbiased information into the decision making process will limit the organization's ability to make sound decisions. The more one knows about *why* key information is or is not utilized in the organization, the more insights one will have regarding specific vulnerabilities and potential avenues of influence.

Related Research Literature

Baron, J. (2007). *Thinking and deciding*. New York, NY: Cambridge University Press.

Daft, R.L. (2010). *Organizational theory and design* (10th ed.). (Chapters 3 & 13) Mason, OH: South-Western Cengage Learning.

Hodge, B.J., Anthony, W.P., & Gales, L.M. (1996). *Organization theory: a strategic approach* (5th ed.). (Chapter 9) Englewood Cliffs, NJ: Prentice-Hall.

Janis, I.L (1989). *Crucial decisions: Leadership in policymaking and crisis management*. New York: Freee Press.

Kahneman, Slovic, & Tversky (1982). *Judgment under uncertainty: Heuristics and biases*. New York, NY: Cambridge University Press.

4.7 Intelligence Subsystem: Overview

The means and mechanisms the organization uses to gain information about entities and action outside the organization

Summary

The “intelligence” subsystem” refers to the means and mechanisms the organization uses to gain information about entities and actions outside the organization. Generally intelligence gathering is focused on the organization’s competitors or enemies. Organizations seek to gain knowledge and insight about competitors’ capabilities, vulnerabilities, actions, motivations, and plans (i.e., “competitive intelligence”) in an effort to gain an advantage over those organizations. Because it is driven by competition, in the business world, the process and product of seeking intelligence is often referred to as competitive analysis.

The intelligence subsystem is usually responsible for the entire intelligence process including requirements, collection, analysis, and reporting/dissemination. Hardware and software technologies and support personnel required for executing the intelligence process may be assigned exclusively to the intelligence subsystem, or they may be shared with the rest of the organization’s knowledge management, or information management, system. Larger, more competitive organizations, especially those with abundant resources, will likely have larger and more capable information management systems than smaller, less competitive organizations with fewer resources. An intelligence subsystem may not exist in every organization, or it may be informal and difficult to identify as such. Highly competitive organizations are more likely to have a recognizable intelligence subsystem than less competitive ones. Competitive intelligence is such a specialized domain that some organizations hire outside parties to perform the intelligence function.¹

In a competitive environment, knowledge is power and organizations need intelligence to remain competitive and viable. With knowledge of its competitors capabilities and plans, an organization is better prepared to outperform (or defeat) those competitors. Competitive intelligence helps organizational leadership to fully understand their operating environment, how it's changing, and how their organization can position itself to gain advantage over its competitors.

Understanding the functioning of an organization’s intelligence subsystem provides insights into potential avenues of influence, as organizational decision making can be heavily influenced by the intelligence it gathers, or the lack thereof. One would likely identify different potential avenues of influence based on the strength and functioning of the target organization’s intelligence subsystem.

Also, the resources available to the intelligence subsystem may determine how well it protects an organization’s sensitive information, especially when the organization is highly decentralized

¹ Meyer, H.E. (1991). *Real-world intelligence*. Grove Weidenfeld: NY, pp 99-100.

and loosely controlled. For example, over 70% of information about organizations is collected through contacts inside the organizations despite their use of technology to prevent it.² The contacts may be face-to-face or through phone conversations and email, or may be initiated via online social media. Organizations that are highly decentralized, highly distributed, and loosely controlled are more vulnerable to this type of intelligence gathering because the preventative controls are either not in place or are not strictly enforced, often because the intelligence subsystem lacks the resources or the mandate from organizational leadership to implement effective controls. (By contrast, in tightly controlled organizations, activities of members may be closely monitored.) Therefore, exploiting the vulnerability of intelligence subsystems should include a consideration of how the organization is distributed geographically, if the control authority is centralized or distributed, the resources devoted to internal security, the security controls that are in place, and the ease with which members may be contacted and their knowledge shared with outsiders.

Relevant Research Literature

Malhotra, Y. (1996). *Competitive intelligence programs: an overview*. Global Risk Management Network. Retrieved July 17, 2012 from: <http://www.brint.com/papers/clover.htm>.

Shaker, S.M. & Gembicki, M.P. (1991). *The war room guide to competitive intelligence*. McGraw-Hill: NY, (see pp 3-24).

McDowell, D. (2009). *Strategic intelligence: A handbook for practitioners, managers, and users*. The Scarecrow Press, Inc.: Lanham, MD 20706.

² Winkler, I.S. (1996). *Case study of industrial espionage through social engineering*. 19th National Information Systems Security Conference (NISSC96), Paper 040. National Institute of Standards and Technology, p 1. Retrieved July 17, 2012 from: <http://csrc.nist.gov/nissc/1996/papers/NISSC96/paper040/WINKLER.PDF>

Q1: Reliability of Information and Analysis

How reliable is the information and analysis provided by the organization's intelligence system (actual reliability, not perceived)?

Response Scale: Extremely unreliable – Extremely reliable

Summary

The primary qualities of competitive intelligence are accuracy, completeness, validity, currency, precision, relevance, clarity, parsimony, and timeliness.³ Reliability refers to both the *accuracy* of the intelligence information and the analysis of it, as well as its *timeliness* (i.e., available when needed by policymakers). Factors affecting the accuracy of information include the quality of the source, the methods and expertise involved in collecting the information, and alterations or biases injected during the analysis and interpretation processes. Timeliness is dependent on how quickly the needed information can be acquired, the time required for analysis, and the means used for disseminating the information. The intelligence subsystem has to be able to support accuracy and timeliness of the intelligence process.

There are two major questions with regard to information accuracy: Is the information accurate, and is it *perceived* as accurate? Accurate information that is perceived as inaccurate will not be trusted by the organization's policymakers and is not likely to be used in decision-making. This may cause the organization to spend additional resources in attempts to collect “better” information. Also, the source providing information that is perceived as inaccurate may no longer be trusted. This may cause the organization to seek other sources of intelligence, or sources that can confirm or disconfirm the accuracy of the information. Some organizations may use information warfare to retaliate for having been provided with information perceived as unreliable.

Information that is inaccurate but perceived as accurate has the potential for causing the greatest damage to an organization using it in decision-making. For thousands of years, enemies and competitors have spent enormous effort to create false information (or “disinformation”) to beguile their opponents. This technique continues to be used by political, military, business, criminal, and even sports-related organizations. Very bad decisions have been made based on inaccurate information believed to be accurate.

Information of *unknown* accuracy is usually treated as unreliable until confirmed or replaced with better information. While not as dangerous as inaccurate information that is believed to be accurate, it may still cause the organization to spend resources on confirmation, and it is likely to slow-down the decision-making process.

³ English, L.P. (2009). *Information quality applied: Best practices for improving business information, processes, and systems*. Wiley Publishing, Inc.: Indianapolis, pp 177-182.

With regard to timeliness and availability of information, decision-makers may come to depend on having certain types of intelligence always available to them. If this information is suddenly disrupted, decision-making and overall operation of the organization may be negatively affected. Some organizations may cease to function, at least temporarily. Also, a distracting “scramble” may occur within the organization to get the intelligence flowing again as rapidly as possible. Obviously, the extent to which an organization’s intelligence is reliable impacts the process and outcome of decision making within that organization. Similarly, understanding the reliability (both real and perceived) of the organization’s intelligence will give the BIA analyst insights into strengths and weaknesses in the organization’s decision making processes.

Relevant Research Literature

McDowell, D. (2009). *Strategic intelligence: A handbook for practitioners, managers, and users.* The Scarecrow Press, Inc.: Lanham, MD 20706.

The Commission on the Intelligence Capabilities of the United States Regarding Weapons of Mass Destruction. Report to the President of the United States, March 31, 2005. Retrieved 7-20-12 from <http://www.gpo.gov/fdsys/pkg/GPO-WMD/pdf/GPO-WMD.pdf>.

Q2: Completeness of Information and Analysis

How complete is the information and analysis provided by the organization's intelligence system?

Response Scale: Extremely incomplete – Extremely complete

Summary

Completeness is one of several qualities (others being accuracy, validity, currency, precision, relevance, clarity, parsimony, and timeliness) that competitive intelligence data (and analysis results) should possess to be maximally beneficial to an organization. Completeness refers to whether or not the requirements established during the intelligence requirements analysis phase were adequate and were met, if best-practices were used in the collection and analysis phases, and if the analyzed data contains the necessary information to permit decision-makers to act. Organizations must be able to furnish complete intelligence information and analysis results to their key decision-makers to maintain their competitiveness, which is critical to the organization's success and longevity. An example of completeness might be that not only was intelligence data of the required level of precision and detail acquired, but also a thorough analysis of the credibility of the source was performed to protect against fraudulent or inaccurate data.

The more resources an organization has, the more likely it is to acquire high quality information and possess more sophisticated tools for performing thorough analyses. Also, such organizations generally have an information management subsystem in place that assures delivery of *all* actionable intelligence information to the appropriate decision-makers in a timely fashion. Many untoward military incidents have arisen as a result of incomplete intelligence. The U.S. entered the Iraq War in 2003 largely because of inaccurate intelligence data, incomplete verification of the source, and dependence on a single source.⁴ In the business world, numerous negative consequences have resulted from decisions being based on incomplete competitive data. Generally, these mistakes cost larger companies millions of dollars in lost profits, and sometimes damage their reputations and revenue streams for years, or put the companies out of business altogether. However, note this statement from Heuer (1999): "While the optimal goal of intelligence collection is complete knowledge, this goal is seldom reached in practice. Almost by definition of the intelligence mission, intelligence issues involve considerable uncertainty. Thus,

⁴ The Commission on the Intelligence Capabilities of the United States Regarding Weapons of Mass Destruction. Report to the President of the United States March 31, 2005.

<http://www.gpo.gov/fdsys/pkg/GPO-WMD/pdf/GPO-WMD.pdf>

the analyst is commonly working with incomplete, ambiguous, and often contradictory data. The intelligence analyst's function might be described as transcending the limits of incomplete information through the exercise of analytical judgment.”⁵ Thus, judgment is an integral part of all intelligence analysis.

A function of the intelligence subsystem is to evaluate the quality of the collected data and analysis results against the previously established intelligence requirements. If the comparison indicates that requirements are not being met, this introduces uncertainty which could result in decision-makers not being able to act. Additional effort and resources may be needed to gather more complete intelligence to reduce the uncertainty. The greater the complexity of the intelligence problem, the more time and resources are required for gathering complete intelligence. In addition to placing a greater burden on available resources, incomplete information will likely slow the organization’s decision-making function as the organization seeks additional information to reduce uncertainty, or attempts to determine what decisions, if any, can be made based on the available information.

Relevant Research Literature

English, L.P. (2009). *Information quality applied: Best practices for improving business information, processes, and systems*. Wiley Publishing, Inc.: Indianapolis.

Scott, W.R. (2003). *Organizations: Rational, Natural, and Open Systems*. Prentice Hall: Upper Saddle River, NJ 07458, pp 233-257.

McDowell, D. (2009). *Strategic intelligence: A handbook for practitioners, managers, and users*. The Scarecrow Press, Inc.: Lanham, MD 20706.

⁵ Heuer, R.J. (1999). *Psychology of intelligence analysis*. Center for the Study of Intelligence, Central Intelligence Agency, Chapter 4. <https://www.cia.gov/library/center-for-the-study-of-intelligence/csi-publications/books-and-monographs/psychology-of-intelligence-analysis/art7.html>

Q3: Dissemination of Intelligence Information

How well disseminated is the information and analysis provided by the organization's intelligence system to people in the organization who need it?

Response Scale: Extremely poorly disseminated – Extremely well disseminated

Summary

Dissemination of intelligence information and analysis involves providing a report of the results of the intelligence process to the people (usually policymakers or key decision-makers) who need it and/or requested it initially. It is the fifth and final step in the intelligence process. However, after reading the report and learning the answer to the original question, the policymaker may have more questions. Then the whole process starts over.

The intelligence report is the “end product” that decision-makers use for developing policy. Because many events that arise in an organization’s competitive operating environment require immediate decisions, it is often critical that the intelligence product reaches the right people at the right time. While there are many well-known examples of failures to disseminate critical information both within the military establishment and the business world, perhaps one of the most outstanding and catastrophic is the attack on Pearl Harbor. Documents released by the CIA in 1946 indicate that the attack could have been thwarted and many lives saved if Army intelligence had informed Navy commanders of early sightings of Japanese aircraft, and if the War Department had informed both Navy and Army commanders of intelligence it had received concerning Japanese activities on several Pacific islands.⁶ Obviously, the extent to which an organization’s intelligence is disseminated efficiently impacts the process and outcome of decision making within that organization. Similarly, understanding the dissemination capability of the organization’s intelligence subsystem will give the BIA analyst insights into strengths and weaknesses in the organization’s decision making processes, and will help identify potential vulnerabilities (e.g., an over-excessive vetting of intel products resulting in a lag in dissemination of intel to top decision makers).

Factors affecting the dissemination process and the usefulness of disseminated intelligence include the following:

Methods used to disseminate the report. Some intelligence products are disseminated in paper form and may be sent through mail channels, others are disseminated electronically, and still others are disseminated via face-to-face interactions or phone calls when audit trails are not desired. Organizations with more resources will likely have better technology and tools for

⁶ CIA. (1946). *Intelligence at Pearl Harbor*. CIA Released Document. Retrieved 8-15-12 from: <http://www.faqs.org/cia/docs/132/0000188601/INTELLIGENCE-AT-PEARL-HARBOR.html>

dissemination. Very small organizations, ad-hoc organizations, and organizations wishing to remain clandestine may depend less on technology for disseminating information, and more on face-to-face information exchange, or couriers.

How the organization is distributed. The use of appropriate technology generally means faster and more reliable dissemination, especially in highly distributed organizations. However, the more primitive techniques are still effective, especially in non-distributed organizations, or within a local operation of a distributed organization. In very large organizations, dissemination can be a very complex problem, involving systems of systems with many different commanders, managers, agencies, and divisions. The technical complexity can be enormous.

Compartmentalization or isolation of decision-makers. Compartmentalization of policymakers may isolate them from the flow of information, thus causing a failure in dissemination. The personnel in charge of the information management system must be informed as to who can view what information, as well as who *must* have what information.

Integrity of the dissemination system. Digital technology allows disseminated information to be stored on a server or other shared resource so that it is available to decision-makers 24/7. Safeguards are generally applied to prevent those without the need to know from viewing sensitive information. As with all communications systems, the technology used in dissemination must be reliable. If communications channels are disrupted (e.g., computer equipment goes down, or there are serious power outages), information will not be available when decision-makers need it, and this causes serious delays of critical decisions. This is potentially a larger concern for highly distributed organizations that must depend on electronic means of dissemination. In addition, the introduction of Trojan horses or computer viruses affecting dissemination, or even the threat of such, can cause uncertainty about the reliability and integrity of the intelligence report. The uncertainty will likely cause delays in decision-making while the intelligence data are verified, and will consume valuable resources.

Usefulness of disseminated data. Intelligence report specifications are established during the requirements analysis phase. However, a common complaint among policymakers is that there is too much raw data and not enough actionable intelligence in the disseminated reports. Decision-makers want better visualizations and judgment incorporated in disseminated intelligence.

Analysts' criteria. Analysts' criteria for what intelligence is important and what isn't are a determinant of the information that is disseminated.

Ability of intelligence personnel to sell their product. Just "disseminating" information is not sufficient. Policymakers may need to be convinced that the intelligence product is critical and relevant to the organization's well-being, and should be considered.

Relevant Research Literature

Mahaffey, J.L. (2005). Observations in the Dissemination of Intelligence Surveillance and Reconnaissance (ISR) Data and Information within a Coalition Environment. In Analytical Support to Defence Transformation (pp. 26-1 – 26-16). Meeting Proceedings RTO-MP-SAS-

055, Paper 26. Neuilly-sur-Seine, France: RTO. Retreived 8-15-12 from:
<http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA472243>
Nolan, J. (1999). *Confidential: Uncover your competitors' top business secrets legally and quickly—and protect your own.* HarperCollins Publishers, Inc.: NY 10022, p 167.
McDowell, D. (2009). *Strategic intelligence: A handbook for practitioners, managers, and users.* The Scarecrow Press, Inc.: Lanham, MD 20706.

Q4: Timeliness of Information and Analysis

How timely is the information and analysis provided by the organization's intelligence system (ahead of time, on time, too late)?

Response Scale: Extremely late/behind time – Extremely early/ahead of time

Summary

Timeliness is one of several qualities (others being accuracy, validity, currency, precision, relevance, clarity, parsimony, and completeness) that competitive intelligence data (and analysis results) should possess to be maximally beneficial to an organization. In this context timeliness refers to the intelligence subsystem disseminating the intelligence report to policymakers precisely when they need it—neither too early nor late. “Intelligence is too slow” is a common complaint heard throughout the military and the competitive business world. Army Field Manual 7-85 states: “The success or failure of a ranger mission often depends on the accuracy, detail, and timeliness of intelligence information. Both deliberate and quick-response missions need specific information that can be obtained only by a multidiscipline collection and analysis agency. An active interface with all levels of the intelligence system helps get the needed information quickly.”⁷

Obviously, the extent to which an organization’s intelligence is timely impacts the process and outcome of decision making within that organization. Similarly, understanding the timeliness of the organization’s intelligence dissemination will give the BIA analyst insights into strengths and weaknesses in the organization’s decision making processes.

Bottlenecks in the intelligence process are often seen as the amount of time required to actually collect the data, the analysis of the data, and its dissemination. Automated techniques often increase the speed of these steps. Organizations with the resources to adopt automated techniques may be more competitive. Although there are few examples of intelligence information being disseminated too early, such situations have the potential for overloading decision-makers with information, which would increase their workload. The effect would be similar to suddenly having too much information to deal with. The overall effect could be to slow decision-making.

Relevant Research Literature

Ewell, J.J. & Hunt, I.A. (1995). *Sharpening the combat edge: The use of analysis to reinforce military judgment*. Department of the Army, Washington, DC. (Chapter V – The Intelligence

⁷ Chapter 7 - Combat Support. Section 7-1 Intelligence Support. *Army Field Manual FM 7-85 – Ranger Unit Operations*. Headquarters Department of the Army, Washington, DC. 9 June 1987.

<http://www.globalsecurity.org/military/library/policy/army/fm/7-85/index.html>

Function, pp 96-105). Retrieved 8-15-12 from:

<http://www.history.army.mil/books/Vietnam/Sharpen/ch05.htm#b1>

Gilad, B. & Gilad, T. (1988). *The business intelligence system*. American Management Association: NY 10020. (pp 57-58, 108, 127-128).

McDowell, D. (2009). *Strategic intelligence: A handbook for practitioners, managers, and users*. The Scarecrow Press, Inc.: Lanham, MD 20706.

Q5: Utilization of Information and Analysis

How well does the organization utilize the information and analysis provided by the intelligence system?

Response Scale: Extremely poorly utilized – Extremely well utilized

Summary

Utilization of intelligence information and analysis refers to the extent to which policymakers within an organization utilize the intelligence product in their decision-making. Unless a policymaker or organization is simply lucky, good decisions that affect the organization's competitiveness can only be made based on the best available data. Obviously, the extent to which an organization's decision-makers utilize the intelligence product impacts the process and outcome of decision making within that organization. Similarly, understanding the extent to which decision-makers utilize the intelligence product will give the BIA analyst insights into strengths and weaknesses in the organization's decision making processes.

Whether an organization utilizes the intelligence product depends on several factors. For example, the more critical the mission of the organization, and the higher the risk of failure, the greater the reliance on and utilization of intelligence. On the other hand, decision-makers' past experience with poor quality or untimely intelligence information may limit their reliance on all intelligence products. Furthermore, personality factors may be involved: Some policymakers tend to trust their "instincts" more than formal intelligence information. These are factors that need to be assessed to determine if an organization utilizes intelligence reports.

It is likely that an organization that has established a substantial intelligence analysis subsystem utilizes its intelligence products. Otherwise, the resources are being wasted. Particularly in the business world, such wastefulness could be indicative of a much larger organizational management problem than just the lack of intelligence utilization.

Answers to the following questions related to intelligence utilization might help the analyst to better understand the organization: (1) how are intelligence products used in the organization, or what questions are answered through their use; (2) how well is the information used, and how good are the decisions that are based on it; (3) what programs (e.g., training) and technologies (e.g., decision aids) are in place within the organization to assure the maximum benefit from each intelligence report; and (4) who in the organization actually uses the information to make decisions.

Relevant Research Literature

Moon, M. (2000). Effective use of information & competitive intelligence. *Information Outlook*, Feb. 1, 2000. Retrieved 8-15-12 from:

<http://www.thefreelibrary.com/Effective+use+of+information+%26+competitive+intelligence.-a094461836>

McDowell, D. (2009). *Strategic intelligence: A handbook for practitioners, managers, and users*. The Scarecrow Press, Inc.: Lanham, MD 20706.

Q6: External Intelligence Activities

How often does the organization engage in intelligence activities EXTERNAL to the organization (to uncover potential problems and opportunities)?

Response Scale: Does not conduct any external intelligence activities – Conducts external intelligence activities almost always

Summary

This topic refers to how often the organization engages in external intelligence activities to uncover problems and opportunities. “External intelligence” implies the usual definition of competitive intelligence, organizational intelligence, or business intelligence (i.e., the process of acquiring knowledge and insight about competitors’ capabilities, vulnerabilities, actions, motivations, and plans in order to gain an advantage over those organizations). It is likely that an organization will spend more resources on collecting intelligence about its competitors or enemies than on acquiring internal intelligence about its own members. It is very important for policymakers to know what is going on in the competitive landscape: Is a military strike about to happen? If so, when, where, and how? What kinds and how many weapons does a foe have? Does a particular nation have a new weapon under development? How many members does a specific gang have? How fast is it growing? What new products are in the drug company’s pipeline? When will company X release its latest cellphone model? The list of potential intelligence questions contains both problems and opportunities that an organization might need to know about to stay competitive. [For the interested reader, Nolan (1999) describes techniques for finding external contributors to intelligence.]

In a competitive environment, knowledge is power and organizations need intelligence to remain competitive and viable. With knowledge of its competitors capabilities and plans, an organization is better prepared to outperform (or defeat) those competitors. External intelligence helps organizational leadership to fully understand their operating environment, how it’s changing, and how their organization can position itself to gain advantage over its competitors. Obviously, the extent to which an organization’s engages in external intelligence activities impacts the process and outcome of decision making within that organization. Gaining knowledge of the external intelligence that an organization seeks, and the methods it uses, can tell a lot about the organization. In this manner, an organization reveals its concerns, its fears, its interests, and its goals. It also reveals what it doesn’t already know. Understanding the extent to which organizations pursue external intelligence and the means by which they do also gives the BIA analyst insights into potential vulnerabilities in the organization and potential avenues by which they could be exploited (e.g., by introducing false information to their intelligence system).

Relevant Research Literature

Nolan, J. (1999). *Confidential: Uncover your competitors' top business secrets legally and quickly—and protect your own*. HarperCollins Publishers, Inc.: NY 10022, pp 131-144.

McDowell, D. (2009). *Strategic intelligence: A handbook for practitioners, managers, and users*. The Scarecrow Press, Inc.: Lanham, MD 20706.

(2009). Hamas: Arrest spy ring working for the occupation. Independent Media Review Analysis (IMRA), Oct. 3, 2009. Retrieved 8-16-12 from: <http://www.imra.org.il/story.php3?id=45957>

Q7: Internal Intelligence Activities

How often does the organization engage in intelligence activities INTERNAL to the organization (to uncover potential problems and opportunities)?

Response Scale: Does not conduct any internal intelligence activities – Conducts internal intelligence activities almost always

Summary

The term “internal intelligence activities” refers to the steps that an organization takes to gather information about the organization. One way to consider this is to see the organization’s frequency of internal intelligence activities involved in determining its own strengths, weaknesses, opportunities, and threats (SWOTs) to maintain or improve its competitiveness and effectiveness.



A useful conceptualization of a SWOT analysis is shown in the figure to the left.⁸ Although SWOT analysis typically considers both external and internal factors that contribute to an organization’s success, the present topic is concerned primarily with strengths and weaknesses of the organization, and are therefore internal. Examples of the multitude of factors that may be considered in a SWOT analysis include number of new products in the “pipeline”; how quickly new recruits are trained for specific jobs; the quality of manufactured products; whether or not supplies, equipment, and people are available when needed; public perception of the organization; disloyalty among critical

members, and personnel turnover.

There is little theoretical guidance for how to perform a SWOT analysis, which factors to analyze, and how to measure each factor or attribute (although some of these choices may be influenced by the type, structure, and purpose of the organization). As a consequence, analysis results are often subjective and cannot be compared across organizations (Hall, 2002, pp 252-253; Katz & Kahn, 1978, pp 224-226; Scott, 2003, pp 362-370). Yet, the important issue in this question concerns the frequency with which the organization conducts internal intelligence activities. It is clear that an organization that does not conduct internal assessments such as a

⁸ This figure is from Wiki Commons (http://commons.wikimedia.org/wiki/File:SWOT_en.svg) and is free to the public.

SWOT analysis may miss out on opportunities or not appreciate looming threats. So, a SWOT or similar internal intelligence analysis can be of value to the organization.

Nevertheless, internal intelligence analyses are not all equal, particularly in terms of their quality. In a “perfect” world, one might expect that the way factors such as those above are assessed, whether or not they are assessed, how often they are assessed, and how the results are interpreted and used by the decision-makers to make organizational changes, would all contribute to organizational success. But there is little of evidence of this. For a variety of reasons, the research necessary to determine the cause and effect relationship for internal intelligence analyses is rarely attempted. Perhaps the best that one can hope for is that the results from a SWOT analysis can be used to identify and remedy specific problems within the organization (e.g., Scott, 2003, pp 370-371).

A number of factors might contribute to the frequency in which internal intelligence activities are conducted. The organizational leadership might motivate more internal intelligence activities. It is possible that if the leadership is motivated to perform a SWOT analysis, they are either aware of one or more problems within the organization or they want to be proactive in heading off problems. This could indicate that the leadership is concerned about competitiveness and is not afraid of change, if needed. Also, in contrast to small organizations, larger organizations can often afford to commit more resources to internal intelligence activities and analyses, but they also will very likely have many more divisions, operations, and processes to evaluate. Regardless of the reasons for why an organization does or does not frequently engage in internal intelligence activities, the question is important for understanding the organization. It will be informative to know about the organization’s attempts to gain insights into its strengths and weaknesses, which can reveal knowledge about an organization’s structure and processes, the amount of resources that are being spent on such activities (which means they are not available for other uses), leadership’s view of the organization’s competitiveness, and the organization’s openness to the possible need for change.

Relevant Research Literature

Hall, R.H. (2002). *Organizations: Structures, Processes, and Outcomes, Eighth Edition*. Prentice Hall: Upper Saddle River, NJ 07458

Katz, D. & Kahn, R.L. (1978). *The Social Psychology of Organizations*. John Wiley & Sons: NY

Scott, W.R. (2003). *Organizations: Rational, Natural, and Open Systems*. Prentice Hall: Upper Saddle River, NJ 07458

4.8 Knowledge, Skills, and Abilities (KSAs): Overview

The ways the organization recruits or trains the specific talents that the organization needs from among its members.

Summary

The set of questions associated with this subsystem concern the knowledge, skills, and abilities that members of the organization bring to and apply in their efforts on behalf of the organization. This general title of “knowledge, skills, and abilities” (KSAs) also includes members’ attitudes and opinions that can influence their efforts in the organization. These personal factors, often referred to as “individual differences”, reflect specific qualities and talents of the organization’s membership. However, they are often discussed under topics of personnel, staffing, and human resources in the personnel psychology and human resource management literature.

The questions pertaining to the KSA subsystem reflect various aspects of the processes whereby the organization acquires, utilizes, and manages its members’ talents and qualities. These processes are associated with (a) recruitment, (b) assessment, (c) selection, (d) placement, (e) training, (f) management, and (g) planning. There is extensive research literature associated with each of these processes, and organizations devote considerable effort and resources in acquiring, developing, and utilizing the talents of its members. There is, however, no one unified approach to the aspects of the KSA subsystem in organizations. For example, Noe, Hollenbeck, Gerhardt, and Wright (2010) focus more on *strategies* whereas Heneman, Judge, and Kammeyer-Mueller (2012) discuss *systems* of staffing in the organization. The revised Attraction-Selection-Attrition (ASA) framework of Schneider et al. (1995) is perhaps the most popular approach, yet it is not a comprehensive model to be applied to all the processes. Nevertheless, it is important to understand the central role that member KSAs play in an organization’s functioning and operations. If an organization is a structure for coordinating activities and division of labor, then it is clear that the organization’s members are the key component in an organization’s activities. As Schneider (1987) remarked “the people make the place.” Organizational scientists often note that the effectiveness of an organization is dependent upon how effectively it uses its financial/capital resources, its technology, and its human resources. The KSAs subsystem reflects how the qualities and talents of these human resources can influence how the organization operates and functions.

How effectively or ineffectively an organization operates and functions is dependent on how it acquires, utilizes, and manages the talents qualities of its members. Moreover, people in most organizations recognize that talents of many of its members are mismanaged, underdeveloped, misplaced, ignored, or underutilized. [There is a literature on human resources cost accounting which calculates the actual financial costs to an organization for poor personnel practices. The hidden costs of the improper use of human resources are often staggering.]

An organization becomes susceptible to a variety of influences when it does not effectively pursue the processes associated with the KSAs of its members. Such an organization is vulnerable to a variety of internal and external pressures. Under such circumstances, the organization may not be able to maintain its current level of functioning, much less respond appropriately or adapt to the changes that surround the organization and its members.

Relevant Research Literature

There are many general approaches to these topics. A general textbook on human resources management (e.g., Noe, Hollenbeck, Gerhardt, & Wright, 2010) or staffing organizations (e.g., Heneman, Judge, & Kammeyer-Mueller, 2012) are perhaps the best places to find an overview. A more advance view is provided by Cascio and Aguinis (2010).

Cascio, W. F., & Aguinis, H. (2010). *Applied psychology in human resource management* (7th ed.). Englewood Cliffs, NJ: Prentice Hall.

Heneman, H.G., Judge, T.A., & Kammeyer-Mueller, J.D. (2012). *Staffing organizations* (7th ed.). New York: McGraw-Hill.

Noe, R.A., Hollenbeck, J.R., Gerhardt, B. & Wright, P.M. (2010). *Human resource management* (7th ed.). New York: McGraw-Hill Irwin.

Schneider, B. (1987). The people make the place. *Personnel Psychology*, 40, 437-453.

Schneider, B., Goldstein, H.W. & Smith, D.B. (1995). The ASA framework: An update. *Personnel Psychology*, 48, 747-779.

Q1: Attracting a Pool of Talented Individuals

How effective is the organization at attracting an adequate pool of appropriately talented individuals to fill all the positions in the organization?

Response Scale: Extremely ineffective – Extremely effective

Summary

This question pertains to an organization's ability to attract a sufficient pool of properly talented new members. Efforts are aimed at attracting the right number of new members having the desired talents and qualities who also are positively disposed toward joining the organization. For many organizations, it is necessary for there to be a continuous flow of new recruits to sustain operations. The military is a clear example. A shortage of appropriately talented members can be devastating to an organization's operations. Organizations typically attract the new members through recruiting. Given how critical attraction is for organizational operations, managers often pay insufficient attention to the attraction process and engage in non-strategic recruitment practices. Not surprisingly, far less research attention has been paid to attraction than to screening and selection processes.

Many times organizations do not have an explicit attraction process for recruiting new members. They hope that the right individuals with the appropriate qualities find the organization and desire to join it. However, conscientious approaches to attraction produce more and better new recruits at a lower cost. Research on the attraction process suggests it is important to recognize the perspective of both the potential recruit and the organization. It is the organization that directly or indirectly tries to recruit new members and wants those recruits to have the right knowledge, skills, abilities, opinions, and attitudes. The potential recruit is the target of the attraction process and the potential new recruit has certain needs, desires, and aspirations that organizational membership might fulfill. As the literature suggests, an effective attraction and recruitment process arises when desires and needs of both the organization and the recruit are met (Wanous, 1980). It is argued that for this match to occur, both parties must exchange accurate and realistic information about themselves.

This question concerns whether the organization is able to attract an adequate pool of appropriately talented individuals needed to fill all the positions in the organization. It is important to note the three conditions of this pool: (1) the pool must be sufficiently large, (2) the individuals must have the appropriate talents and qualities, and (3) all the positions in the organization must be filled. The attraction process and related recruitment practices need to satisfy all three of these conditions to be extremely effective.

There are several approaches for impacting the effectiveness of an organization's attraction processes. First, consider the recruitment practices. When done well, these practices can attract those ideally suited to the organization. Done poorly, however, recruitment practices may alienate the very individuals the organization hopes to attract. The recruitment practices might also focus on only one of the three conditions (e.g., obtaining a large number of candidates) at the expense of the other conditions (e.g., obtaining sufficiently talented candidates). As a consequence, an attraction process that is managed in an unsophisticated fashion without attention to the strategic benefits can be ineffective. A second way to influence the attraction process is through the inducements the organization offers to potential members. An example of this is the "signing bonuses" that some organizations offer new members for joining the organization. The inducements can also be perceived as the fulfillment of the less tangible needs, desires, and aspirations of potential new recruits. Organizations need to realize that membership

in some organizations may not be a “privilege”, but rather a penalty (negative inducement). These organizations need to modify their attraction processes to dispel notions of these negative inducements. Otherwise, the attraction process is likely to be ineffective. A third approach an organization may pursue in its attraction process is to target individuals that others may overlook. Oftentimes recruitment practices focus on traditional sources of new members while ignoring others who are equally talented and are a good match for the positions. By targeting these overlooked potential recruits, the organization not only expands the pool of applicants but also discovers talented individuals who would typically be ignored but may be very motivated to join the organization. The three approaches outlined above that can make an organization’s attraction processes more effective, but if poorly implemented, they also have the potential to impede the organization’s efforts to attract enough new members who have “the right stuff.” It is important to recognize that the benefits and costs of membership in an organization are perceived by the potential new recruits. The perceptions may not be accurate, but bad press about an organization can compromise the quality of its attraction processes. Dissemination of undeserved “good press” can also hamper organizational efforts. Misleading positive information can result in the attraction of too many potential recruits who also lack the appropriate talents, and it can lead to disenchanted members when they learn that the organization will not meet their heightened expectations.

Relevant Research Literature

A general textbook on human resources management (e.g., Noe, Hollenbeck, Gerhardt, & Wright, 2010) or staffing organizations (e.g., Heneman, Judge, & Kammeyer-Mueller, 2012) will often include a discussion of the attraction process and recruitment practices.

Heneman, H.G., Judge, T.A., & Kammeyer-Mueller, J.D. (2012). Staffing organizations (7th ed.). New York: McGraw-Hill.

Noe, R.A., Hollenbeck, J.R., Gerhardt, B. & Wright, P.M. (2010). Human resource management (7th ed.). New York: McGraw-Hill Irwin.

Wanous, (1980). Organizational entry: Recruitment, selection, and socialization of newcomers. Reading, Ma.: Addison-Wesley.

Q2: Making Smart Selection Decisions

How effective is the organization in making smart selection decisions so that it gets the right people into the organization while also not including the wrong people?

Response Scale: Extremely ineffective – Extremely effective

Summary

The key purpose of an organization’s selection process is to ensure that it identifies and accepts the right members into the organization and rejects those that would not be a good fit. Collins (2001) uses the phrases of “Get the right people on the bus.” as well as “Get the wrong people off the bus.” These phrases colloquially express the objectives of an effective selection process.

Placement, then, is “Getting the right people in the right seats.”] Selection decisions result in getting the people having the requisite knowledge, skills, abilities, opinions, and attitudes into the organization. At the same time, these decisions exclude people who lack the knowledge, are unskilled, are unable to perform the tasks, have beliefs counter to the organization’s goals, and have attitudes that are detrimental to organizational functioning. Research indicates that if an organization effectively recruits sufficiently talented individuals, tremendous gains can result. Human resource cost accounting finds economic gains of tens of thousands of dollars for making decisions using a selection process in which the new recruits are just 10% more likely to have the requisite talents for the position. There are real and substantial hidden costs of failing to make smart selection decisions for organizational membership.

Organizations use a variety of methods to assess the knowledge, skills, abilities, opinions, and attitudes of potential new members. The usefulness of these methods depends on their capability to predict the behaviors, motivations, and performance of these new members. The validity of the methods used in selection is directly related to their utility in improving the talent among organizational members. In general, objective methods (e.g., tests, skills assessment, past performance) are preferred and considered more valid than subjective methods (e.g., unstructured interviews, recommendations from clergy). Not surprisingly, many people who select individuals for organizational membership are more confident in their decisions and selection judgments than is appropriate. For a variety of reasons, people believe they are better judges of people and their positive and negative characteristics than is warranted (Plous, 1993). There are, however, technical approaches for assessing the desired characteristics of potential recruits (e.g., statistical, objective, theoretical), and expertise is required to apply these assessments accurately and effectively (see Guion, 2012, for greater description of these more technical approaches).

Bringing new members with the requisite skills into an organization is not an easy task, and so potential effectiveness is rarely achieved. A strong selection process requires valid information with regard to all knowledge, skills, abilities, and attitudes desired on the part of the potential recruit. If the recruits provide misleading and inaccurate information about their lack of talents, they may gain entry into the organization and a more talented and qualified person would be denied membership. Using a signal detection theory paradigm, both the “false positives” and “incorrect rejections” are costly for an organization. Additionally, because of the human tendency to be overconfident in their judgments of others, it is easy to reinforce this human pitfall by reminding decision makers of the positive decisions of which they are proud rather than their glaring and costly mistaken judgments. Research indicates that it is very difficult to get people to be appropriately confident in their judgments about others (e.g., training, incentives for accuracy, and awareness are unsuccessful). Nevertheless, perhaps the greatest pitfall is to believe that it doesn’t matter who is selected for organizational membership. A traitor is a powerful example, but a confident crook, immoral guide, or incompetent fool are others. Failure to pay attention to the talents (or lack thereof) among the people who gain entry into an organization can undermine most of the operations and functions of an organization.

Relevant Research Literature

A general textbook on human resources management (e.g., Noe, Hollenbeck, Gerhardt, & Wright, 2010) or staffing organizations (e.g., Heneman, Judge, & Kammeyer-Mueller, 2012) will often include a discussion of the selection and personnel decision processes. Guion (2011) provides a more advanced consideration of these topics.

Collins, J.C. (2001). *Good to great: Why some companies make the leap... and others don't.* New York: Harper Business.

[Guion, R.M. (2011). *Assessment, measurement, and prediction for personnel decisions* (2nd ed.). New York: Routledge.

Heneman, H.G., Judge, T.A., & Kammeyer-Mueller, J.D. (2012). *Staffing organizations* (7th ed.). New York: McGraw-Hill.

Noe, R.A., Hollenbeck, J.R., Gerhardt, B. & Wright, P.M. (2010). *Human resource management* (7th ed.). New York: McGraw-Hill Irwin.

Plous, S. (1993). *The psychology of judgment and decision making.* New York: McGraw-Hill.

Q3: Assessing the Talent of Potential Recruits

How effective is the organization in assessing the talent of potential recruits (i.e., their knowledge, skills, abilities, attitudes, values) so that the talent can be effectively applied for the organization's needs?

Response Scale: Extremely ineffective – Extremely effective

Summary

An organization attempts to recruit members with the knowledge, skills, abilities, and values that it believes are critical to organizational operations, functioning, and survival. As potential new recruits apply for membership in the organization, the organization needs to assess those potential recruits' levels of the requisite knowledge, skills, abilities, and values for the positions it is seeking to fill. This question focuses on how effectively the organization *assesses* these attributes in potential recruits.

The assessment (i.e., measurement, evaluation, and appraisal) of potential recruits' knowledge, skills, abilities, and values has a long established research literature (Noe et al., 2010) covering numerous techniques and guidelines (Pulakos, 2005). Whenever a method for gaining an understanding of the applicants' talents for a position in an organization is used, an assessment is being made. A personnel decision should be made based on the review and evaluation of the assessments taken. Consequently, personnel decisions are only as good as the methods of assessment used and the conscientiousness of the selection decision process.

Most positions in organizations require a host of different talents for the person to be successful in the position. Because there are a variety of knowledge, skills, abilities, and values required for positions, different methods are often used to assess the diverse talents that need to be considered. Among the many methods used, traditional approaches include application forms, reports of previous related accomplishments, interviews, cognitive ability tests, personality inventories, references, and work on sample tasks. Regardless of the methods used, the objective is to gain an accurate and complete assessment of the potential recruits' talents that must be effectively applied for the organization to achieve its objectives.

Talent assessment methods vary on a number of criteria and factors that influence the accuracy, comprehensiveness, and effectiveness of the assessment; and consequently, the quality of the selection decisions that are made for new members. One criterion for an effective assessment is that the process be applied in a *standardized* fashion across all potential recruits. If different procedures are applied in an unsystematic fashion across potential recruits, (e.g., different instructions or descriptions for the applicants to use in providing information on their talents) then potential recruits will provide different information about their talents and will be evaluated with this unsystematically gathered information. Another criterion is how *objectively* or subjectively the information provided by the potential recruits is evaluated. Unstructured interviews are notoriously subjective because the information gathered is influenced more by the interviewer or the context than by the information the interviewee provides. A third criterion is the *reliability* of the assessment method. Reliability involves the consistency of responses provided by the potential recruits using an assessment and reflects how likely the assessment would get the same information for the potential recruits at different times and situations. An unreliable assessment technique means that the information gathered from potential recruits has no consistent meaning and cannot be evaluated as if it was accurate. A critical criterion is *validity*. Validity reflects the confidence one has that the method used to assess some talent of value to the organization actually provides useful information about the level of talent of the potential recruits. Often times one hears claims that a measure of some talent is a useful measure when, in reality, it doesn't predict successful performance at all. One example of this is handwriting analysis, which is sometimes used to assess honesty among applicants, but has little scientific evidence backing its validity. Another factor that influences the assessment of knowledge, skills, abilities, is *access to the technology* used for the assessment. If a computer is used to gather responses to the assessment, and the potential recruit lacks access to that technology, then one cannot gather information from that potential recruit. Similarly, if an organization wants to assess some talent (e.g., eye-hand coordination) but does not have access to the methods used to assess the talent, then the organization is unable to get that information from potential recruits. One last factor that influences the usefulness of applicants' responses to an assessment is their reactions to the assessment method (i.e., *face validity*). Individuals generally know they are being assessed by methods which will influence their potential membership in an organization. If the individuals do not understand how or believe that the assessment method has any relation to what they would do as a member of the organization, they may not care or be conscientious in their responses to the assessment. Thus, the information the potential recruits provide is not useful in an assessment of how their talents can contribute to the organization.

In several agencies of one foreign government, the merit-based assessment system for new employees was set aside and replaced by an interview of potential recruits by a political functionary (i.e., unstandardized, subjective, unreliable, and invalid). In this fashion, the

individuals selected to run the agency were assessed based on their political and social connections and not the talents they brought to the agency or their positions. This foolhardiness was compounded by government policies that made it nearly impossible to remove a person once they were hired. Consequently, these agencies were populated by incompetent employees who could not be removed, resulting in the required work not getting done. Eventually the government hired expensive outside firms to do the work that the agencies could not perform.

Relevant Research Literature

A general textbook on human resources management (e.g., Noe, Hollenbeck, Gerhardt, & Wright, 2010) or staffing organizations (e.g., Heneman, Judge, & Kammeyer-Mueller, 2012) will include a description of the methods and tools for assessing potential recruits for an organization. Guion (2011) provides a more advanced consideration of these topics. The U.S. Office of Personnel Management provides a very good overview of the methods, tools, and strategies for personnel assessment as well as a brief discussion of its importance (<http://apps.opm.gov/ADT/Content.aspx?page=TOC>).

Guion, R.M. (2011). *Assessment, measurement, and prediction for personnel decisions* (2nd ed.). New York: Routledge.

Heneman, H.G., Judge, T.A., & Kammeyer-Mueller, J.D. (2012). *Staffing organizations* (7th ed.). New York: McGraw-Hill.

Noe, R.A., Hollenbeck, J.R., Gerhardt, B. & Wright, P.M. (2010). *Human resource management* (7th ed.). New York: McGraw-Hill Irwin.

Pulakos, E. D. (2005). *Selection Methods: A Guide to Implementing Formal Assessments to Build a High Quality Workforce*. Alexandria, VA: SHRM Foundation.

Q4: Placing New Members into Positions

How effective is the organization in assigning and placing new recruits into appropriate functions and positions in the organization?

Response Scale: Extremely ineffective – Extremely Effective

Summary

The objective of the placement process is to place each new recruit in a position that will make most use of the recruit's talent and the position for which the new recruit will do the best work. Organizations can place individuals into optimal positions where their talents are sufficient, relevant and necessary to the jobs they perform. Conversely, organizations can place recruits in suboptimal positions where they are unqualified or where their talents are unutilized or underutilized. It is important to realize that positions in organizations change and that the knowledge, skills, abilities, and values of organizational members change as well. Therefore, one should recognize that placement is an enduring process that doesn't end at an individual's initial recruitment.

Placement is a decision. For most organizations, there is a specific pool of new recruits and existing members. Additionally, the organization has a set of specific positions or jobs that are open (or can be constructed or reconfigured). The organization decides how to best match the pool of recruits and members to the set of positions. Optimal placement decisions result in the most effective use of the members' and recruits' knowledge, skills, abilities, and values. By following traditions, engaging in haphazard placement, or failing to appreciate the changes in the jobs, tasks, positions, and member talents will all lead to suboptimal placement and will put the organization at risk for being non-competitive.

Additionally, if individuals find that their talents are not appreciated or well utilized by the organization, their initial entry into the organization may not be as positive as it could be. Moreover, if individuals are placed into positions for which they lack the skills, abilities, or knowledge for successful performance, they will also be frustrated in their efforts and may feel they were set up to fail. In either case, new recruits may quickly leave an organization if poor placement decisions are made. Thus, inappropriate placement has important consequences for the effectiveness of the organization as well as for the satisfaction of the new recruits who enter the organization.

Another aspect of placement involves how well the new recruit (or member) can interact with others in the organization. Most organizational members work in a group (e.g., team, department, or unit). The workgroup generally exists when the new member joins it. The new member has must perform the tasks in the position and also interact effectively with the workgroup members supervisors. The match of the new recruit to the workgroup and supervisor is often overlooked in the placement of new recruit in a position within the organization.

Many approaches to placement consider selection and placement together. However, most of the research focuses on only the selection of new recruits. Placement receives much less attention, primarily because placement always occurs in the specific context of the organization and the positions that may be available. It is clear that optimal placement decisions are important, but other than a focus on the best match between recruit talents and values and the requirements for specific positions and organizational desires, little guidance can be given. A non-intuitive way to see the importance of placement would be to consider how one could best disrupt an organization's operations and function by placing a saboteur in the organization. As the new recruit infiltrates the organization, the recruit could best disrupt the organization from specific positions in the organization (e.g., security guard, IT, accounting) depending on which subsystem was the target of disruption. The ease with which this infiltration could occur is directly related to the effectiveness of the organization's selection and placement processes.

Relevant Research Literature

A general textbook on human resources management (e.g., Noe, Hollenbeck, Gerhardt, & Wright, 2010) or staffing organizations (e.g., Heneman, Judge, & Kammeyer-Mueller, 2012) will include a description of the placement of recruits into an organization. Guion (2011) provides a more advanced consideration of these topics. Wanous (1992) also provides a good discussion of the consequences of optimal and suboptimal placement for the organization and its members.

Guion, R.M. (2011). *Assessment, measurement, and prediction for personnel decisions* (2nd ed.). New York: Routledge.

Heneman, H.G., Judge, T.A., & Kammeyer-Mueller, J.D. (2012). *Staffing organizations* (7th ed.). New York: McGraw-Hill.

Noe, R.A., Hollenbeck, J.R., Gerhardt, B. & Wright, P.M. (2010). *Human resource management* (7th ed.). New York: McGraw-Hill Irwin.

Wanous, J.P. (1992). *Organizational entry: recruitment, selection, orientation, and socialization of newcomers* (2nd ed.). Englewood Cliffs, NJ: Prentice-Hall.

Q5: Training of New Recruits

How effective is the organization in training new members so that they have the capability to perform the appropriate and required behaviors as well as hold valued attitudes?

Response Scale: Extremely ineffective – Extremely effective

Summary

For organizations to be effective, they need to apply the talents of their members to the duties and tasks that need to be accomplished. The knowledge, skills, abilities and values that an organization seeks in its members are achieved through selection (recruiting those who already have the requisite talents) or through training (formal or informal training of recruits once they join the organization) or both. Both approaches can be necessary and effective. As an example, consider a family unit as a form of organization. “Effective” families generally share some degree of knowledge, skills, abilities and values. These qualities are primarily found in one’s spouse via a selection process (we choose partners who have the attributes we desire). However, they are instilled in children primarily through training. [One who believes it would be just as effective to reverse these two will be sadly mistaken.]

Initial questions an organization must address regarding training are: “What are the precise behaviors that the organization member(s) need to perform and what are the skills, abilities, knowledge, and values that they need to have to maximize organizational effectiveness?” To address these questions, a needs analysis is conducted to define the specific objectives of the training program for the organization. These needs may include both general training (e.g., safety training, ethics training), and specialized training (e.g., training to maintain a specialized piece of machinery). In the needs analysis, the specific requisite KSAs are identified, as is the population of members who required the given training (not all members are likely to need the same kinds of training).

Once the training objectives are identified, the training is delivered to the organizational members. There are a number of ways in which the training might be provided (e.g., on the job, role playing, videos). A variety of factors play a role in the overall effectiveness of the training. For example, differences in overall ability might enhance or hinder the training outcomes of specific individuals. The motivation of the trainee (i.e., desire to learn) can also influence the likelihood of the training objectives being achieved. Additionally, the quality of the training material and the trainers heavily influences the outcome.

Because the effectiveness of training programs is dependent upon so many factors, they often do not meet all of their objectives. Thus, an important point of any training program is the evaluation and assessment of how well the training program attains its objectives. Remarkably, such evaluations are often not performed. This is unfortunate because research demonstrates that much is gained by utilizing an effective training program. One study demonstrated that an organization saved \$6000 a year for every member of the organization (not just new members) as a result of utilizing an effective training program. Conversely, ineffective training programs waste critical organizational resources (time and money).

Research indicates that there are a number of benefits of a good training program. (1) The production or transformation efficiency is higher. (2) There is a decrease in accident rates. (3) There is an increase in satisfaction and morale on the part of organizational members. (4) There is a reduction in turnover (i.e., people quitting the organization). (5) The organization is better able to evaluate how well a person is doing in a job relative to what the person should be able to accomplish. Additionally, training provides the new member an idea of the policies and procedures of the organization. It provides a first impression to the new recruits about the organization and what it values. All of these outcomes result from an effective training program. In spite of the clear value of effective training programs, many organizations have no formal training programs or protocols. Either no training is provided, or the training is informal (e.g.,

“just watch what s/he does, and if you can do that you will get along fine”). Perhaps this results in part because of the difficulties of developing a truly effective training program. If the training program is a) incomplete and critical knowledge, skills, abilities, and values are not conveyed or b) ineffective and the members learn the wrong behaviors and values, or c) the training does not transfer to the actual tasks and jobs the members perform; then the results of the training program are costly and potentially detrimental to organizational functioning. For example, one can imagine an organization having an informal training program that teaches new recruits how to get around cost controls, ethical challenges, government regulations, and organizational policies. The new recruits could eventually (and perhaps quickly) behave in ways that would expose the organization to numerous threats to its operations as well as the survival of the organization itself.

Relevant Research Literature

A general textbook on human resources management (e.g., Noe, Hollenbeck, Gerhardt, & Wright, 2010) or staffing organizations (e.g., Heneman, Judge, & Kammeyer-Mueller, 2012) will include a description of training in organizations. Goldstein and Ford (2002) provide a more advanced consideration of various aspects of training in organizations.

Heneman, H.G., Judge, T.A., & Kammeyer-Mueller, J.D. (2012). *Staffing organizations* (7th ed.). New York: McGraw-Hill.

Noe, R.A., Hollenbeck, J.R., Gerhardt, B. & Wright, P.M. (2010). *Human resource management* (7th ed.). New York: McGraw-Hill Irwin.

Goldstein, I.L., & Ford, J. K. (2002). *Training in organizations: Needs assessment, development, and evaluation* (4th ed.). Belmont, CA: Wadsworth.

Q6: Planning for Personnel Needs

How effective is the organization at planning for its personnel needs (knowing and forecasting its needs for knowledge, skills, and abilities currently and in the future)?

Response Scale: Extremely ineffective – Extremely effective

Summary

This question concerns the organization’s efforts to plan for its personnel needs. In particular, we want to know whether the organization understands its current needs (i.e., the member talents required for the organization to succeed) and can forecast its future needs. Furthermore, we want to know if the organization actually *plans* for achieving the future knowledge, skills, abilities, and values it will require from its members. An understanding of the need for planning is an initial step in the planning process.

Given relatively stable environmental contexts, organizations often know what knowledge, skills, abilities, and values are required from new recruits because the organizations focus on the requirements of open positions. However, forecasting for future needs is much more difficult and

the forecasting clearly has associated uncertainty (e.g., what will the composition of the membership of the organization be in the future in terms of talents and values? What will be the environmental forces and dynamics that will press on the organization in terms of the goods and services it provides and the talents and values organizational members will need to be able to provide those goods and services? What is the plan for growth or contraction for the organization and the implications for the needs for specific talents and values?). This forecasting requires considerable thought about the organization, its future, and the operational environment it can anticipate. Even if those who manage and direct the organization are willing and capable to conduct these forecasts, they then have to convey their forecasts and understanding to those who recruit new members so that a plan can be put in place.

There are positive consequences of effective planning processes for organizational membership. If an appropriate plan is in place, then the organization has the members with the requisite talents available and in place when the organization needs them and the organization does not face a shortage of personnel, which could hamper the organization's capability to fulfill its orders for goods and services. Also, a good plan for recruiting members will make sure that the requisite talents are available in the organization. If the plan is misguided, the organization may have many members with talents that can't be used, and needs for knowledge, skills, and abilities that aren't being filled. Similarly, an appropriate plan may help the organization avoid letting members go because the organization can no longer afford their talents. Letting members go (e.g., layoffs, forced separations) results in numerous costs: (1) the costs of severance pay and payments for insurance and unemployment, (2) the loss of members who have much to contribute to the organization, (3) a psychological cost to those who remain in the organization knowing that their colleagues have been let go, and (4) sunk costs of training already invested in those who are no longer part of the organization, and who –worse yet—might take those skills to a competing organization.

Within most organizations, the issues of personnel planning have to do with labor markets, sector growth or decline, and organizational strategies for expansion or contraction. Poor planning can result in downsizing, outsourcing, offshoring, and take-overs. However, voluntary organizations (e.g., AARP) face a slightly different set of contingencies because individuals join the organization for a different constellation of rewards. Regardless, those planning for personnel needs must use the best evidence available and make their best guesses. If those planning for personnel needs have inadequate, inappropriate, or unreliable information about potential new members; then the organization will suffer from being unable to respond to the requisite needs for talents and values among its membership. Also, an unfounded faith in intuition about personnel needs will eventually result in poor personnel planning. Yet, foremost, an organization that does not plan for its personnel needs at all will be subject to control and influence by the labor, environmental, and market forces.

Relevant Research Literature

A general textbook on human resources management (e.g., Noe, Hollenbeck, Gerhardt, & Wright, 2010) or staffing organizations (e.g., Heneman, Judge, & Kammeyer-Mueller, 2012) will include a description of the planning and forecasting processes for personnel for organizations. Heneman, H.G., Judge, T.A., & Kammeyer-Mueller, J.D. (2012). *Staffing organizations* (7th ed.). New York: McGraw-Hill.

Noe, R.A., Hollenbeck, J.R., Gerhardt, B. & Wright, P.M. (2010). *Human resource management* (7th ed.). New York: McGraw-Hill Irwin.

Q7: Developing Members in their Roles

How effective is the organization in developing and maintaining the knowledge, skills, and abilities of its members for continued, expanding, or changing roles in the organization?

Response Scale: Extremely ineffective – Extremely effective

Summary

This question concerns the effectiveness of the organization's efforts to maintain and develop its members to meet the changing nature of the members' roles. A member often fills a specific organizational role that encompasses more than just the position and its duties and responsibilities (Katz & Kahn, 1978). As an organization and its operating environment change, the roles of its members may change as well. This may require member KSAs to evolve (e.g., evolving along with the technology), or it may require completely new skills (e.g., a transition from warfighting to peace keeping). Moreover, some organizational members ask, or are asked, to take on new roles (e.g., managerial, supervisory, technical) as their career paths transform in the organization. This question concerns how effectively the organization facilitates its members' maintenance and development of the knowledge, skills, and abilities needed for their changing roles in the organization.

An organization will be more competitive and effective if it recognizes the dynamic nature of the knowledge, skills, and abilities of its members. The organization can take advantage of this dynamic nature to help members identify their strengths and weaknesses, alert them to new jobs and career paths, and highlight changes in job demands and responsibilities. For the valuable members of the organization, this attention to member development can help retain them and guide them to use their talents for the organization's benefit. Also, for members whose talents are underutilized, attention to member development can provide a means to let these members grow in their job and make greater contributions to the organization. An appreciation of the dynamic nature of member talents applied to organizational needs also provides a mechanism for

the organization to adapt to societal and technological change as well as the dynamic features of competitive environments. In some regard, member development is a requirement for a ‘learning organization’ which is capable of adapting to change in customers, markets, and competitors. An organization’s emphasis on training and member development reflect the organization’s concern with the members’ careers and the degree to which it values a long-term relationship with its members. With an appropriate attention to member development in their changing roles in the organization and the dedication of adequate resources, the organization will be better able to effectively utilize all the talents of its members. However, failure to attend to member development can have a number of negative consequences. Members may feel frustrated because opportunities for personal growth are absent. If the member has creative talents that can contribute to innovation for the organization, they will feel their creativity is stifled. Also, if individuals are recruited into a position and their talents are underutilized they may feel undervalued by the organization. In turn, members will perceive little chance for advancement in the organization and will not be loyal to the organization. If they do not leave, they can easily become the disgruntled members who can have detrimental effects on the social atmosphere in the organization and cause continual damage to organizational operations and functioning. These frustrated and disgruntled members are the individuals who can foster worker actions, initiate unionization efforts, or can be recruited by competitors and others to hinder organizational effectiveness.

Relevant Research Literature

A general textbook on human resources management (e.g., Noe, Hollenbeck, Gerhardt, & Wright, 2010) or staffing organizations (e.g., Heneman, Judge, & Kammeyer-Mueller, 2012) will generally describe the important role of the development of employees and organizational members. Katz and Kahn (1978) provided a critical initial discussion of roles in organizations. Heneman, H.G., Judge, T.A., & Kammeyer-Mueller, J.D. (2012). *Staffing organizations* (7th ed.). New York: McGraw-Hill.

Katz, D., & Kahn, R.L. (1978). *The social psychology of organizations* (2nd ed.). New York: John Wiley & Sons.

Noe, R.A., Hollenbeck, J.R., Gerhardt, B. & Wright, P.M. (2010). *Human resource management* (7th ed.). New York: McGraw-Hill Irwin.

Q8: Dealing with Organizational Separations

How effective is the organization in dealing with voluntary or involuntary separations from the organization (i.e., quitting, laid off, downsizing, being fired, retirement, etc.)?

Response Scale: Extremely ineffective – Extremely effective

Summary

It is an organizational fact of life that an organization will lose members. How the organization deals with these losses (i.e., separations) can have a number of consequences. Organizational separations come in two forms. In a *voluntary* separation, the individual leaves the organization by choice (e.g., retirement, quitting, moving out of town). Often, the organization would like to retain this member and their loss is undesired. In an *involuntary* separation, the individual is forced by the organization to leave (e.g., discharged, fired, laid-off), generally against the individual's will.

Voluntary separation is often troublesome and costly for an organization. Some of the voluntary separation cannot be avoided, such as when a member chooses to retire or when the member's spouse takes a very desirable position in a geographically distant area. However, some voluntary separation can be avoided if issues are recognized early and addressed. For example, a member may be dissatisfied with how he or she is treated in the organization and believes that better opportunities exist in other organizations. Similarly, a member may anticipate being laid off and choose to pursue a suitable alternative with a competing organization. In such cases, dissatisfied members do not quit immediately, but rather they go through a process (Mobley, 1982). Initially they will evaluate their alternatives and their value of staying in the organization. If they determine there is merit in leaving, they will then form an intention to leave the organization. If asked, these individuals will say they intend to leave. Then the members will begin to search for viable alternative positions. If a good alternative arises, it is then that they will leave the organization. In this way, voluntary separations are not unanticipated. When members leave an organization because of dissatisfaction, this presents an opportunity for the organization to correct some actions it has towards its members. When individuals voluntarily leave the organization, the organization can survey or solicit feedback (e.g., via exit interviews) from these individuals to determine why they are leaving and what the sources of their dissatisfaction are. The organization can then change the rewards for members of the organization so that they are more likely want to remain with the organization.

There are significant costs associated with voluntary separation (aka turnover). These costs include the expenses like severance pay, unemployment, the exit interview, time spent filling out paper work, the cost of overtime or temporary employees to fill the needs left by the member's departure, the manager's time dealing with the loss of the employee, costs associated with announcing the position, advertising and promoting the opening, recruiting potential new

members, reviewing applications, orienting the new recruit to the organization, moving expenses and travel for the new recruit, the recruit's time spent in training, and the manager's time spent socializing and mentoring the new member. Another cost involves the gap in performance between the new replacement and the experienced member who is leaving. Established organizational members are often quite proficient in their positions and new recruits often take considerable time to reach that level of proficiency. All of these costs and expenses make voluntary separations a threat to the viability of an organization and make it an issue that managers need to attend to.

Involuntary separations basically arise because the organization can no longer utilize the person's talents because of poor planning, market forces, or economic declines. This kind of involuntary separation often is seen in terms of downsizing, lay-offs, and buy-outs. These too are costly to the organization for many of the reasons listed above. In addition, organizations may provide outplacement services for those they layoff to help them make the transition to another position with another organization. Organizations may also support the person in his or her efforts to find another position such as by using its network to help the individual find employment. In general, as an attempt to console their members with the shock of losing their relationship with the organization, they can help these individuals realize that other opportunities exist.

Although less frequent, involuntary separations also occur because the member has an unacceptable level of job performance or fails to follow policies, procedures, rules and regulations (e.g., fired, discharged, termination for cause). These separations are often psychologically more difficult for the member and supervisor. It takes skill to discharge an individual from the organization and it is not always done tactfully. As a consequence there is much concern about workplace violence and legal actions because those subject to involuntary separation do not believe they were treated appropriately.

Although turnover may be costly, it can also be beneficial for the organization if the separations are managed conscientiously. As a consequence of eliminating personnel, the organization has the potential to attract a better pool of members particularly if they have cut loose the less useful members of the organization. If there is a temporary financial decline in the organization, layoffs can provide short-term labor savings. Moreover, as members of the organization are eliminated, astute management can use it an opportunity to restructure the constellation of duties and responsibilities required so that those who fill the positions will be more effective and efficient. Organizations can be much more effective if they appropriately handle the separation process. The organization can remove individuals who, regardless of the reason, do not or will not make the contributions required of their positions. The organization can also work to retain those individuals who might otherwise leave to make sure that they desire to remain with the organization.

Relevant Research Literature

A general textbook on human resources management (e.g., Noe, Hollenbeck, Gerhardt, & Wright, 2010) or staffing organizations (e.g., Heneman, Judge, & Kammeyer-Mueller, 2012) will discuss the topics associated with organizational separations, turnover, and withdrawal. Mobley (1982) provides an extensive discussion of these topics and also offers currently the best model of the turnover process of individuals in organizations.

Heneman, H.G., Judge, T.A., & Kammeyer-Mueller, J.D. (2012). *Staffing organizations* (7th ed.). New York: McGraw-Hill.

Mobley, W.H. (1982). *Employee turnover: Causes, consequences and control*. Reading, MA: Addison-Wesley.

Noe, R.A., Hollenbeck, J.R., Gerhardt, B. & Wright, P.M. (2010). *Human resource management* (7th ed.). New York: McGraw-Hill Irwin.

4.9 Material Acquisition Subsystem: Overview

The procedures the organization uses to acquire the tangible resources required to produce the goods and services it delivers.

Summary

All organizations need tangible resources to support production of the goods and services they provide. Without sufficient materials and procedures to maintain the flow of needed supplies, the organization can suffer and ultimately fail.

Obviously, organizations must have a good understanding of their material needs and the timeline associated with those needs. To ensure adequacy of materials that support production and/or transformation, those in charge of managing the supply chain must also be cognizant of the following factors:

- Location- both their own and that of their suppliers, as this could impact routing, scheduling, methods of transport, and amount of material that can be transported
- Production rates- knowing what to produce, when to produce, and, if there is more than one facility, where to produce
- Inventory- deciding how much is needed when, as well as considering abilities to develop stores for future use.

There also needs to be an overall awareness of supply and demand. It is important to note that, although there is a tendency to focus on the production of goods, many organizations also provide services. Although the elements of the supply chain differ for providing services, issues of material acquisition apply to services as well because the production of services also involves the use of critical resources (e.g., armies need weapons and ammunition).

As one thinks of the different elements related to material acquisition (e.g., supply chain), each element can reveal potential leverage points for support or disruption of an organization's production cycle for goods or services. By interrupting or supporting the materials acquisition process, one could impact an organization's ability to serve its clients and members as well as its degree of success, and ultimately, its ability to survive.

Relevant Research Literature

Baldwin, C.Y., Dyer, J.H., & Fites, D.V. (2000). *Harvard business review on managing the value chain*. Harvard Business School Press.

Coyle, J.J., Bardi, E.J., & Langley, C.J. (2003). *The management of business logistics: A supply chain perspective* (Seventh ed.). South-western/Thomson Learning.

Q1: Reliability of Suppliers

How reliable are suppliers in fulfilling the organization's needs in terms of appropriate quality, at the right time, and in sufficient amounts?

Response Scale: Extremely unreliable – Extremely reliable

Summary

Supplier reliability is critical to organizations because shortfalls in this area can translate into failures to meet member and customer needs. As such, it is important that those in charge of material acquisition develop positive relationships with those responsible for their organization's needs, making sure to explicitly express requirements related to product quality, timeliness of delivery, and quantity to avoid miscommunication and failures to meet needs.

Regarding material quality, those in charge of acquisition need to make sure their definition of quality not only meets organizational standards, but also, more importantly, those of customers and clients. Disregarding this element of quality can lead to marketplace failure with poor quality translating into poor satisfaction by clients (e.g., inadequate sales). As such, those acquiring materials must have clearly established reliability requirements to ensure material quality satisfies the needs of both the organization and the consumer base.

Timeliness of delivery and quantity of materials needed are also important because they directly impact production of goods and services. If the supplier is late, the organization's production will be late as well, potentially leading to a decreased consumer base due to a demonstrated inability to meet delivery deadlines. Because of this, it is important that those in charge of material acquisition have a good sense of both the organization's needs and those of its supplier so that 'upstream' supply problems do not translate into downstream problems later in the process.

Supplier reliability, including material quality, timeliness of deliveries, and available quantities of material, is crucial to understanding an organization's operations, particularly because it can be leveraged to support or disrupt an organization's effectiveness. Weakness in this area translates into weakness for the organization. Whether the materials are for support of members (e.g., food, weapons), or part of an organization's production process (e.g., raw materials, parts), the reliability of their provision impacts the organization's ability to thrive. It could be argued that an organization is only as strong as its weakest supplier.

Relevant Research Literature

Baldwin, C.Y., Dyer, J.H., & Fites, D.V. (2000). *Harvard business review on managing the value chain*. Harvard Business School Press.

Coyle, J.J., Bardi, E.J., & Langley, C.J. (2003). *The management of business logistics: A supply chain perspective* (Seventh ed.). South-western/Thomson Learning.

Q2: Negotiating Capability

How capable is the organization to negotiate better price (costs), quality, timely delivery, and service from suppliers (i.e., strength or weakness in negotiations with suppliers)?

Response Scale: Extremely incapable – Extremely capable

Summary

Once a supplier for materials has been identified, negotiations between the organization and the potential supplier begin. If the supplier and organization can come to an agreement, they often continue to negotiate issues throughout the duration of the relationship. Negotiating is a dynamic process wherein all parties involved are attempting to gain advantage, usually hoping to achieve what they see is best for them. A strong negotiator can resolve conflicts, solve problems, and, perhaps most importantly, persuade. The best negotiators for an organization are those who operate with knowledge, not only knowing what they need, but also being in tune with the supplier's needs, thus leading to solutions with mutual benefit.

According to Fisher, Ury, and Patton (2011) successful negotiations can be broken down into four basic steps. First, a successful negotiator separates the people from the issue; not focusing energy on the people involved, but rather on the goal. Secondly, the negotiator focuses on interests of the parties involved, not just on positions. There should not be a focus on "right" and "wrong" or reliance upon a perceived position of power or superiority. Successful negotiators also have a variety of solutions in mind and they consider a number of options. Lastly, they make sure the final solution meets some pre-determined standards and results in an equitable solution to achieve those standards. Equitability is important because it builds trust; in turn, trust leads to stable relationships with long-term benefits for all involved.

Understanding how an organization negotiates with suppliers is important to understanding how the organization is able to procure the materials it needs because it provides clues to its level of business sophistication. Knowing who negotiates and how they negotiate can provide opportunities to influence the material acquisition process. Due to the give-and-take nature of negotiations, those that are less flexible in their approach are most likely easier to disrupt simply because they are less likely to have alternative means of acquiring what they need and also less successful in maintaining long-term relationships with suppliers.

Relevant Research Literature

Fisher, R., Ury, W.L., & Patton, B. (2011). *Getting to yes: Negotiating agreement without giving in*. Penguin Books.

Coyle, J.J., Bardi, E.J., & Langley, C.J. (2003). *The management of business logistics: A supply chain perspective* (7th ed.). South-western/Thomson Learning.

Q3: Supply Disruption

How easily can the flow, acquisition, quality, or quantity of supplies be disrupted?

Response Scale: Extremely difficult – Extremely easy

Summary

All organizations need tangible resources to support their activities, particularly in the production of goods and services. A lack of sufficient materials and procedures for their acquisition can lead to organizational difficulties, or even failure. The strength of an organization's supply chain (i.e., procurement) is an integral part of its ability to survive; therefore it is important that a strong system be in place with contingencies to protect it from disruption.

Topics to consider when investigating the stability of an organization's material acquisition process include the complexity of the process; the quality and quantity of needed supplies; and the ease with which materials are transported. For example, if an organization's supplier relies on three others for its own success, disruption of any one of those other channels could subsequently lead to disruption for the end-user. If, however, there are more direct paths from the suppliers to the organization, there is less opportunity to disrupt the flow of materials. Similarly, if there are a number of potential suppliers the organization could draw upon for its supplies, the possibility of a significant disruption is reduced.

Material quantity and quality present another area that could lead to supply disruption. For example, if an item is in short supply, hoarding by competitors or brokers could hinder an organization's production flow. In this same scenario, further problems could result from rising costs, with suppliers taking advantage of low inventory through mark-ups (e.g., price gouging) leading those who require their goods to make tough choices about when, and if, they can afford needed supplies. The cost and potential inadequate supply could also threaten quality. If an organization is able to pay premium prices for premium supplies, it may be able to position itself well in difficult markets.

Another consideration with regard to supply chain disruption is location. For some organizations, proximity of the supplier may be vital to material acquisition. For example, if physical and/or fiscal resources limit an organization's storage ability, there may be a need for frequent small deliveries to maintain stock. There is also the matter of what the organization is producing. If, for example, perishable items are part of production, location and storage capacity will once again be an issue leading to the potential need for frequent replenishment of supplies. The longer the distance in the supply line, the greater the potential for disruption by a number of factors (e.g., weather).

Transport methods and terrain over which suppliers must travel also present potential delivery obstacles. The more direct the route between product and customer, the less chance there is for disruption due to delays. The same could be said of terrain, with direct-route passage through clear areas being less complex than, for example, traveling through jungle or across mountain ranges to secure needed materials.

Understanding the complexity of an organization's supply chain is crucial for understanding how the organization is able to procure its supplies and how susceptible these supplies are to disruption. Being aware of how the supply chain functions and understanding how various steps in material distribution affect others provides information that could be used to support or disrupt the supply chain, thus helping or hindering an organization's ability to function.

Relevant Research Literature

Baldwin, C.Y., Dyer, J.H., & Fites, D.V. (2000). *Harvard business review on managing the value chain*. Harvard Business School Press.

Coyle, J.J., Bardi, E.J., & Langley, C.J. (2003). *The management of business logistics: A supply chain perspective* (7th ed.). South-Western/Thomson Learning.

Q4: Knowledge of Procurement Process

How adequate is the organization's knowledge about its procurement processes (so that it can plan and estimate for its projects)?

Response Scale: Extremely inadequate – Extremely adequate

Summary

To succeed in their mission, organizations not only need sufficient material resources, they also need procedures for their acquisition. As such, having individuals in place who understand the organization's needs and all that is involved in their procurement is essential. There also needs to be sufficient understanding of supply and demand. A lack of knowledge in this area could lead to disruption of the acquisition process and subsequent production shortfalls.

A good procurement manager will understand what is needed, how much is needed and when it is needed. It is important to be able to accurately forecast demands and plan accordingly, anticipating variances in material availability and product production cycles. As such, the procurement manager needs to know the organization's operations and functions, and those of the organization's suppliers, so that a procurement model can be built that optimizes opportunities while minimizing downtime. For example, seasonal needs can be ordered in advance; storage areas can be utilized to stock materials that fluctuate in availability or are in high demand. Storage space can also be used for staple goods as opposed to basing their usage on trends, potentially leading to less waste of materials, money, and needed space.

Being responsive to the organization's membership or customer base is also important because knowledge of their desires drives production and, by association, procurement activities. Being

able to accurately forecast sales volume is important because organizations need to make sure that production and demand are synchronized. Shortfalls in this area could lead to a loss of membership or customers to competing organizations who are more responsive to their needs. Conversely, excess can lead to waste of materials, money, and time. For example, if you know that your customer base is more focused on quantity than quality, decisions about supplies can be made that reflect this business model. If customers are quality-driven, then quality of materials should become a prime concern during the procurement process, adding another element of complexity to the knowledge base of those charged with material acquisition.

An understanding of the organization's procurement process is important because disruptions in material procurement result in threats to the organization's viability. Being able to identify the individuals charged with material acquisition and their level of knowledge regarding business operations can be leveraged to support or disrupt production cycles. If those in charge lack the sophistication to build procurement models that reflect the needs of their organizational members or customers, opportunities are created to support or disrupt the organization's activities thus impacting its ability to thrive.

Relevant Research Literature

Baldwin, C.Y., Dyer, J.H., & Fites, D.V. (2000). *Harvard business review on managing the value chain*. Harvard Business School Press.

Coyle, J.J., Bardi, E.J., & Langley, C.J. (2003). *The management of business logistics: A supply chain perspective* (7th ed.). South-western/Thomson Learning.

Q5: Organization's Satisfaction with Suppliers

How satisfied is the organization with its suppliers in the acquisition of material?

Response Scale: Extremely dissatisfied – Extremely satisfied

Summary

More often than not, when referring to suppliers and satisfaction, one generally thinks of customers. However, in this case, the customer is the organization under consideration. Because organizations depend on suppliers to meet the needs of their customers it is important that there is clear communication in the relationship. Both sides must be aware of the responsibilities of the other, as well as the repercussions of a failure to meet defined standards.

The relationship between the organization and its supplier(s) is based on the ability to negotiate business arrangements that are beneficial to both parties, and the perceived trust in each other's ability to fulfill agreed-upon obligations. Satisfaction with delivery schedules, material quality and quantity, as well as price can all lead to the development of longstanding positive relationships. Failures in any or all of these areas could damage relations and potentially lead to the discontinuation of the business relationship. It is clear that organizations are dependent upon their suppliers, so the organization's satisfaction with the suppliers reflects how well it is adapting to this dependence.

To foster a positive relationship that is satisfying for all parties involved, the organization must be clear in stating its needs. These needs should be realistically defined, with both parties displaying a certain degree of flexibility in meeting established criteria. For the supplier, being responsive to the organization's needs will be an important element of securing a long-term business relationship. For example, delivery schedules may be more important than cost to an organization whose customer base is more quality than quantity driven. In this instance, a supplier who offers flexibility in delivery schedules may be of more interest to the organization than one who offers a lower price but is unable to accommodate delivery needs. It is important that the suppliers realize that, while they have their own agenda and their own needs, these elements need to become secondary to those of their potential client organizations. By putting the organization's needs ahead of their own, the supplier demonstrates their willingness to work together, and sets the stage for loyalty and trust rather than distrust and recrimination.

It is important to understand the relationships and the degree of satisfaction the organization has with its suppliers. Strengths or weaknesses in the supplier relationships present opportunities for influence by others (e.g., competitors, adversaries). Maintaining a solid and fulfilling supplier-organization relationship will minimize the possibility of disruptions by other parties.

Determining the criteria by which an organization gauges its level of satisfaction with a supplier can provide important clues about the factors that influence the relationship. Further, understanding that these criteria may vary as a function of the nature of the supplies needed is also important when considering the ways in which the organization evaluates the satisfaction it has with suppliers.

Relevant Research Literature

Baldwin, C.Y., Dyer, J.H., & Fites, D.V. (2000). *Harvard business review on managing the value chain*. Harvard Business School Press.

Coyle, J.J., Bardi, E.J., & Langley, C.J. (2003). *The management of business logistics: A supply chain perspective* (7th ed.). South-western/Thomson Learning.

4.10 Planning & Development Subsystem: Overview

The strategic functions the organization pursues to determine its current actions as well as to define and pursue future goals

Summary

The planning and development subsystem relates to the strategic functions the organization pursues to determine its current actions as well as to define and pursue future goals. The planning and development components are inter-related because they involve plans for what the organization is currently doing but also how these plans contribute to future developments for the organization as it pursues its goals. Organizational planning and development are about improving the way the organization functions. Planning is about preparing for the future and how the organization will respond to future events. Development is about putting those plans into action to improve the organization.

For this subsystem, a series of questions are posed that focus on planning and development in a variety of domains. These questions reflect how well the organization is capable of following a planning and development process. They address what factors are in place (e.g., systems and processes), what hindrances exist (e.g., opposition to change), and how planning and development operates in the organization (e.g., top-down versus bottom up). From these questions, it is hoped that analysts will begin to have a better understanding of the planning and development activities of the organization under consideration.

According to Beer (1980), organizational development (OD) is about better aligning an organization's structure and assets and having a creative approach to solutions that enables an organization to reinvent itself. Beer applies a systems perspective to OD, viewing the organization as an integrated system rather than considering individual elements alone. This OD systems approach looks to make both long- and short-term improvements in an organization that can involve both behavioral and non-behavioral change. By considering both the human and business elements of the organization, those who are charged with organizational planning and development can make positive changes to the organizational structure while simultaneously improving the conditions for its members. This objective reflects the potential of a well-conducted organizational development initiative.

A fundamental characteristic of planning and development is change – organizational change in this case. How well does the organization plan for change? How closely does the organization change in the intended fashion (i.e., development)? How well does the organization cope with internal and external changes? Does the organization anticipate and plan for the unintended consequences that accompany the expected change? Consequently, much of the literature on organizational planning and development shows up under terms such as organizational change (e.g., Burke, 2010), managing organizational change (e.g., Leban, 2007; Palmer, Dunford, & Akin, 2008), planning for change (e.g., Bennis, Benne, & Chin, 1985), and organizational development (e.g., McLean, 2005). As the questions indicate, a critical issue is the effective implantation of change in organizations (Spector, 2012). If aspects of the organization are not structured for change (e.g., systems and processes), ill-prepared for change (e.g., leadership), or opposed to change (e.g., member participation), then the change effort is much less likely to succeed. To be able to accomplish effective change in the organization, it is important for those involved to understand the planning and development activities in the organization and how to

utilize these processes to effectively plan for and implement change for the organization's improvement in pursuit of its strategic goals.

Relevant Research Literature

Beer, M. (1980). *Organizational change and development: A systems view*. Goodyear Publishing Company.

Bennis, W.G., Benne, K.D., & Chin, R. (1985). *The planning of change*. New York: Holt, Rinehart, & Winston.

Burke, W.W. (2010). *Organizational change: Theory and practice* (3rd ed.). Thousand Oaks, CA: Sage Publications.

Cummings, T.G., & Worley, C.G. (2008). *Organizational development and change* (9th ed.). Mason, OH: South-Western College Publishing.

Leban, B. & Stone, R. (2009). *Managing organizational change* (3nd ed.). Hoboken, NJ: John Wiley & Sons.

McLean, G. N. (2005). *Organization development: Principles, processes, performance*. San Francisco: Berrett-Koehler.

Palmer, I., Dunford, R., & Akin, G. (2008). *Managing organizational change: A multiple perspectives approach* (2nd ed.). New York: McGraw-Hill/Irwin.

Spector, B. (2012). *Implementing organizational change: Theory into practice* (3rd ed.). Englewood Cliffs, NJ: Prentice-Hall.

Q1: Adequacy of System & Processes Knowledge

How adequate is the organization's knowledge of its own processes and systems – the antecedents, processes, and consequences from the processes and systems?

Response Scale: Extremely inadequate knowledge – Extremely adequate knowledge

Summary

An organization's operations result from the systems and processes that it has in place. To maintain and develop the organization's operations, key individuals need to know and understand these systems and processes. Moreover, as changes in the operational environment

arise, this knowledge is needed to effect change in an organization's operation. The key individuals who perform planning and development must possess a thorough knowledge of the organization's operational processes and systems, understand how all of the elements necessary to operate come together, and how these processes and systems contribute to the organization successfully achieving its goals. For those charged with planning and development, limitations and gaps in this knowledge could lead to decisions that could harm the organization and its operations.

For planning and development to be effective, those in charge of it need to be capable of dealing with dilemmas. They need to work in the present, yet plan for the future. They have to make current operations efficient, yet develop the organization in way to make it more effective in the future. They need to live with uncertainty and also attempt to reduce it. They need to know and understand the systems and processes in place, yet try to change these processes and systems in strategic ways so that predictable outcomes can be attained. They need to find ways to reduce errors in the processes and systems yet embrace and value those errors as a basis for better understanding of the systems and processes. Essentially, these individuals need to operate as both strategists and tacticians, being able to use their knowledge of the organization's systems and processes to anticipate the long- and short-term consequences of changes they develop, plan, and implement.

Those in charge of planning and development must have a mental model of the organizations systems and processes. This model must accurately reflect the ways the systems and processes operate. It must also be precise enough in its representation to enable accurate forecasting and to help foster planning for the organization's future. Moreover, this model must be comprehensive enough so that the forecasts and predictions include specification of the desired outcomes as well as description of the potential unintended consequence of a proposed change in the organization's processes and systems. In this regard, the model has to specify all the important antecedents needed to understand the processes and systems by which the organization operates. The model also has to articulate all the different critical consequences of the organization's systems and processes. This question asks how adequate is the knowledge of the antecedents, consequences, and systems and processes by which the organization operates.

Knowledge of the organization's systems and processes is important for the organization's planning and development. A small error can cascade when it is not corrected as a plan develops and is implemented. Just as a failure to fully know and understand a system and its process can result in disaster in the test of a new technology (e.g., a missile launch), similarly a failure to know and understand the systems and processes of an organization can result in a disaster from a poorly understood organizational change. Moreover, undetected underlying errors in the operations in systems and processes can cascade into an organizational catastrophe. As a technological example, the NASA Challenger space shuttle crash was resulted when "o" rings failed due to freezing weather. Not only did the components fail, but the *process* for reporting and acting upon known risks failed. (Engineers identified the risk prior to launch and voiced concerns, but their warnings were not heeded.) For these reasons, it is important for those in charge of organizational planning and development to have accurate and adequate knowledge of the organization's systems and processes.

Relevant Research Literature

The material related to organizational planning and development is scattered in various areas. Some of this will be found in a good management textbook (e.g., Griffin, 2012). Organizational

theory textbooks (e.g., Daft, 2010) may also cover the topic. There is an entire field of organizational development; however, much of this is related to implementing change rather than a focus on the systems and processes (although this will be seen in organizational development approaches, see McLean, 2005). A quick summary of organizational planning and its value for change can be found at

<http://www.foh.dhhs.gov/services/Training/planning.asp>.

Daft, R. L. (2010). *Organization theory and design* (10th ed.). Mason, OH: South-Western Cengage Learning.

Griffin, R.W. (2012). *Management* (11th ed.). Mason, OH: South-Western Cengage Learning.

McLean, G. N. (2005). *Organization development: Principles, processes, performance*. San Francisco: Berrett-Koehler.

Q2: Driven Top-down versus Bottom-up

How often are the planning and development processes of the organization driven from top-down (from top management) efforts or from bottom-up activities?

Response Scale: Almost always top-down – Almost always bottom-up

Summary

Planning and development processes can move in different directions between levels in an organization. Organizations that operate from the top-down have processes that are developed by leadership and management which is subsequently communicated to those at lower levels.

Alternatively, bottom-up processes happen when individuals at lower levels come together to express a need that ultimately leads to a decision by top management. Neither approach is right or wrong, but each does have its advantages and disadvantages which have important implications for organizational planning and development.

Top-down processes are those implemented by management and thus supported by them as well. The advantage of the top-down approach comes from the fact that those having leadership responsibilities have a reasonable view of most activities taking place within an organization.

Top-down planning is strategic in nature, making plans based on an organization's long-term vision, a sort of 'form follows function' approach to planning and development processes. Due to its lack of member input, the downside of top-down process implementation is that it can cause members to feel undervalued or disappointed that their input is not included although it might

have merit. Another benefit of a top-down approach is an organization which operates with a consistent vision that is deemed best for all.

Bottom-up processes are those that emerge at the lower levels and ultimately influence the decisions of top management which results in the initiative being implemented. Tactical in nature, this approach tends to resolve short-term needs such as those related to a specific project or event. Unlike the management-driven top-down approach, bottom-up processes are participative, with input coming from many levels. The advantage of bottom-up stands in opposition to the weakness of the top-down approach; since members are involved in organizational decisions, they may feel more vested and more valuable. Consequently, those at the lower level are more likely to be willing to implement a change in plans if they participated in the development. There is also an advantage for management in that they can leverage the expertise of lower-level managers to provide important information when making top-level decisions. However, this is a drawback if top management fails to understand that they are still responsible for making final decisions and that *they* need to make those decisions.

Perhaps the fundamental difference between top-down and bottom-up planning and development processes is the degree of participation and involvement. The top-down approach is management oriented with more participation and involvement of decision by management which gives more stability in the approach and operations. The bottom-up approach has participation and involvement by those who are generally directed and guided by upper management. This approach follows the direction already set by an organization, but intentionally considers the needs and opinions of those who serve the organization in providing its goods and services.

An important point for this question is that organizations need to select the planning, development, and implementation processes that best supports their mission and the issue under consideration at that time. In order to understand how organizations operate and function, it is important to know how the organization deals with planning and development. Is it generally top-down or bottom up? Or does the organization operate in different ways depending on the situation it is facing? Note again that there is not one better or worse way (e.g., bottom-up or top-down), but rather differences in approaches to planning and development. One consequence of consideration of this question is that organizations that fail to realize the relationship between planning and development and the ultimate implementation will often face dissention, with members rebelling to get what they believe is best for them and the organization. Alternatively, if management turns over too much of the responsibility for planning and development to the lower levels of the organization, it may have a fractured and fragmented view of the over-riding objectives and goals the organization is trying to pursue.

Relevant Research Literature

Cummings, T.G., & Worley, C.G. (2004). *Organizational development and change* (8th ed.). Mason, OH: South-Western College Publishing.

Daft, R. L. (2010). *Organization theory and design* (10th ed.). Mason, OH: South-Western Cengage Learning.

Keare, D.H. (2001, July 1). Learning to clap: Reflections on top-down versus bottom-up development. *Human Organization*.

Nelson, D.L., & Campbell, J. (2003). *Organizational Behavior* (4th ed.). Mason, OH: South-Western .

Yoskovitz, B. (2009, May 19). *Top down vs bottom up business models and user acquisition*. Retrieved November 2012, from instigator blog.: <http://www.instigatorblog.com/user-acquisition-business-models/2009/05/19/>

Q3: Acceptance or Opposition of Plans

How likely is the planning and development of the organization to be accepted and implemented by members of the organization (versus disregarded, derailed, overtly or covertly opposed, or ignored)?

Response Scale: Extremely likely to be ignored or opposed – Extremely likely to be accepted or implemented

Summary

No matter how brilliant an organization's planning and development initiatives may be, they are of little value if the members will not implement them. Organizational leaders need to get members to commit to their plans, embracing change as a positive event rather than one to be opposed, ignored, or derailed. According to Daft (2010), leaders can foster commitment to change by systematically demonstrating their support for change and adequately preparing members through clear communication, leading to greater acceptance and commitment to new ideas.

Breaking commitment down into stages, Daft (2010) posits that by approaching change through the stages of preparation, acceptance, commitment, and institutionalization, organizational leaders are more likely to successfully achieve their planning and development objectives. The first stage, preparation, involves clearly communicating organizational objectives and making sure that everyone is made aware of what lies ahead. In the acceptance stage, the rationale behind the change is provided, with explanations of not only why change is needed, but discussions of how it can positively impact the organization and its members. This is the time when everyone should clearly understand the processes, and implementation decisions that are made. In the commitment phase, changes are enacted and everyone works together to communicate transitional difficulties so that they can be quickly resolved. The final stage, institutionalization, occurs when the new changes no longer seem new and are viewed as just another part of the daily process.

Prior to achieving institutionalization of new plans, organizational leaders should be prepared for objections from members. As noted by Daft (2010), resistance to change is normal, so leaders should have plans in place to mitigate that resistance or risk failures in implementation. By

focusing their energy on members and clearly communicating how they will benefit from change, there is greater likelihood of compliance.

There is always an advantage to be gained when an organization and its leadership are possessed of the abilities to effectively convey their plans and implement them in a way that leads to positive acceptance by members. Such abilities better position organizations to grow in both their membership and customer base by keeping abreast of changes in the operational environment. Organizations with leaders who are able to effectively communicate and implement their plans will be much more difficult to influence than those who rule by strength alone. Alternatively, those planning changes in the organizations will be frustrated if they ignore the importance of the commitment of those who will be implementing the change. Organizations have faced sabotage, strikes, worker revolts, overt and covert oppositions in their attempts to introduce changes. When considering how organizations operate and function, it is useful to have a good understanding of how the members will respond to attempts to introduce change in the organization.

Relevant Research Literature

Bennis, W.G., Benne, K.D., & Chin, R. (1985). *The planning of change*. New York: Holt, Rinehart, & Winston.

Burke, W.W. (2010). *Organizational change: Theory and practice* (3rd ed). Thousand Oaks, CA: Sage Publications.

Daft, R. L. (2010). *Organization theory and design* (10th ed.). Mason, OH: South-Western Cengage Learning.

Q4: Adjusting to External Change

How capable are the organization's planning and development processes to adapt and adjust to changes in the organization's EXTERNAL environment?

Response Scale: Extremely incapable to adapt and adjust – Extremely capable to adapt and adjust

Summary

It is important that those charged with organizational planning and development be acutely aware of the external environment in which the organization operates. Any plans for change and development need to be made with an understanding of the organization's external environment. Also, these individuals need to understand how the external environment will influence internal organizational dynamics that affect planned change. Such knowledge helps to ensure that any implemented changes lead to an organization that is stronger and more responsive to external change.

To accomplish goals that are compatible with the external environment, planning and development professionals should have a clearly defined organizational mission and strategy plan. The mission statement is needed to help frame the organization's direction; the strategy plan helps guide the organization and its members through the change process. Changes that may result from external influences include updates in technology, changes in service providers, prices for materials, shifts in market demands, etc. For example, if an organization relies on the internet for its external communications (e.g., voice over internet protocol (VOIP)), it is important that the organization update its systems to keep pace with the communications technology that allows the organization to maintain the contacts within and outside the organization (e.g., customers, partners). Regarding service providers, if a primary supplier changes prices, delivery schedules, or even updates its technology, it would be necessary for an organization to adjust their own practices to better match those of its support system, or possibly consider a change in provider. Perhaps the biggest concern is shifts in market demands. For example, highly specialized organizations are less likely to succeed in shifting markets than those that are a bit more diversified, enabling them to more easily shift their own focus to better match that of the changing external environment.

When assessing an organization, it is important to know how well the organization can adjust to changes in the environment. Darwin said it is not the strongest or most intelligent organism that is most likely to survive; it is the one that can best adjust and take advantage of changes in its environment. This holds for organizations as well. So, much can be learned about an organization by knowing how well it adjusts to changes in the external environment as it makes its plans and implements strategies for development. Moreover, the organization's reactions to external change can provide clues to its mission, operating strategy, motivation, and leadership. Those with the ability to adapt are more likely to achieve both membership growth and operational longevity. Those unable to adapt and adjust to changes in the external environment will likely stagnate and may ultimately collapse.

Relevant Research Literature

Beer, M. (1980). *Organizational change and development: A systems view*. Goodyear Publishing Company.

Cummings, T.G., & Worley, C.G. (2004). *Organizational development and change* (8th ed.). Mason, OH: South-Western College Publishing.

Q5: Adjusting to Internal Change

How capable are the organization's planning and development processes to adapt and adjust to changes in the organization's INTERNAL environment?

Response Scale: Extremely incapable to adapt and adjust – Extremely capable to adapt and adjust

Summary

Just as an organization must display innovation in its approach to changes in its external environment, so must it with internal change as well. Since a main component of an organization's internal environment is its members, an important aspect of the planning and development process is related to member support. To maintain vitality and to remain competitive in the marketplace or on the battlefield, organizations must develop their internal assets. Being responsive to the needs of members and having plans in place to adjust to those changing needs is an important aspect of a successful organizational planning and development process. Organizations that view personnel development as an expense rather than a necessary part of the growth process may find themselves poorly positioned for success.

As noted by Daft (2010) and others, change is part of organizational development and growth. Leaders and managers with a vision for the organization are a crucial element of the change process. Such transformational leaders support change by encouraging organizational members to share their ideas and explore new possibilities. To help the organization adjust to change, the organization's planning and development process must be structured to accommodate change, making sure its focus is properly directed. By focusing on the importance of change rather than the costs, benefits rather than negative reactions, and the resulting opportunities rather than threats, persuasive arguments for change can be made. It is also important to properly coordinate the change, making sure it is compatible with existing systems and ensuring that the change being implemented follows the design and structure of the organization. In these ways, the organization's leadership can implement change protocols that support the internal change process rather than hinder it.

As Cummings and Worley (2004) note, most individuals have a desire to achieve personal growth, seeking training and development, or promotion to the next level. In support of these desires, the planning and development process should include contingencies to accommodate such growth. When an organization invests in the training and development of its members, it is essentially investing in a dynamic aspect of itself by creating a positive environment amenable to personal change. The planning and development subsystem also has to be in tune with the ways the members of the organization are changing in terms of who are members as well as the characteristics of these members.

Another aspect of internal change is how the design and structure of the organization changes. As organizations develop, they often take on different configurations of design and structure (Mintzberg, 1979). Organizations can hinder their capabilities to change if they fail to realize that the organization's structure has changed. Implementing a change program based on an outdated view of the structure of the organization may result in a missed opportunity to take advantage of some avenues of implementation that are available or not be aware of locations of opposition that may be important for the eventual success of the change program.

Most approaches to organizational change and development suggest that an initial step in the change process is an assessment of the current systems and processes in place. This assessment provides a basis for considering how change will actually transform the organization and whether it will occur in the desired fashion. The planning and development subsystem of an organization needs to recognize that these systems and processes change as well. Importantly, it is often the systems and processes that the change approach is attempting to modify and transform. Consequently, those in charge of planning and development need to be quite aware of the systems and processes as well as adapt and adjust to changes in the systems and processes of the organization.

An important feature of how an organization operates and functions is how well it adapts to changes in its internal environment. The planning and development subsystem can adapt and adjust to changes in the internal environment (e.g., organizational members, processes, systems, structure, design, leadership, value, and mission). When evaluating an organization's response to internal change, a key indicator of its ability to adapt may well be its members. If an organization's membership is in constant transition, it may be an indicator of one that is not supportive. If members stay for long periods, or sustained growth is noted, this may indicate that the organization is strong in its support of member development, and well-positioned to deal with internal change. If the organization is in a constant state of change, it may be the case that insufficient attention is being paid to the various aspects of the internal environment that need to be supportive for the change to achieve its desired results.

Relevant Research Literature

Cummings, T.G., & Worley, C.G. (2004). *Organizational development and change* (8th ed.). Mason, OH: South-Western College Publishing.

Daft, R.L. (2010). *Organization theory and design* (10th ed.). Mason, OH: South-Western Cengage Learning.

Mintzberg, H. (1979). *The structuring of organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Q6: Relative Market Position

How well is the organization doing against its 'competition' in its market (segment; industrial sector)?

Response Scale: Rapidly gaining market share – Rapidly losing market share

Summary

Regardless of the type of organization, there is usually some competition involved. It can be a rivalry or economic competition. In response to competition, an organization may stagnate, grow, or fall behind. As a function of the external and internal forces upon an organization, it can be seen as ahead of the competition, behind the competition, or in competition with its peers. According to Daft (2010), the most current way of assessing how successful an organization is involves what he terms a 'balanced scorecard' where multiple factors, (e.g., finances), play a role in measuring an organization's position relative to its competition or peers. With the organizations overall mission strategy goals at its center, Daft's (2010) model posits that four elements impact this central point: finances, internal processes, learning and growth, and customers. Added to these should be the competence of the organization's members to perform

their roles effectively. Those organizations that perform well in all areas will operate effectively and efficiently, helping to secure their place in the market.

It is important that an organization's finances are well-managed because, without adequate financing it cannot survive. As such, successful financial management involves making sure that organizational activities are contributing to the financial health of the organization. Managers need to ensure that the organization has an acceptable return on investment and a balance sheet in the black. If not, processes in place may need to be examined to improve any deficits that may exist.

An organization's internal processes are important because they affect its production of goods and services. Process planners need to make sure that organizational processes are aligned with goals to support the production of superior goods and services. Regardless of the goods and services the organization provides, its management needs to be sure they are using the best resources to produce a sufficient amount of goods or services and delivering them on time. Management needs to attend to all of these while also keeping an eye on expenditures so as to meet financial criteria needed for success.

Learning and growth affect an organization in the area of development. Those that can adapt and adjust their internal and external processes to meet market demands will be more successful than those that cannot. Through continuous improvement processes and dedication to employee enrichment, organizations create a positive environment for employees and an innovative one for production of goods and services.

Since customers drive the market and numerous aspects of an organization's efforts, it is important that an organization serve them well by making sure they get the goods and services they desire- how they want them, and when they want them. Satisfied customers become loyal customers, helping to secure the organization's place in the market.

Organizations also vary in terms of how well they use the talents and competencies their members provide the organization. An organization can waste its members' talents. On the other hand, many organizations that work from a position of weakness in one area (e.g., financial backing) can excel in other areas (e.g., processes) because they take advantage of the talents (i.e., knowledge, skills, abilities, values) that the members bring to the organization. In a sense, the organization creates substantial additional value by utilizing the human capital that is provided by its members.

Daft (2010) argues that you can evaluate an organization's position relative to its competition (or peers) on a set of factors. This overview describes a set of factors and how they contribute to an organization's overall position as it performs relative to its competition and peers. Organizations often excel in one or two of these factors, but lag closely or far behind on the other factors. However, there are exceptions. Some extremely well-run organizations lead their competition in all factors. In contrast, there are also organizations that are poorly managed. Even when they have better initial positions, these organizations are uncompetitive on these factors. An additional benefit of comparing an organization to its peers and competition is that it provides a means of identifying the specific areas in which the organization excels or is uncompetitive (i.e., the areas of strength and weakness of the organization for factors that are relevant for organizations in that sector or market). For all these organizations, the comparison to peers and competitors tells us how well the organization is responding to its challenges.

Relevant Research Literature

Daft, R.L. (2010). *Organization theory and design* (10th ed.). Mason, OH, USA: South-Western Cengage Learning.

4.11 Production & Transformation Subsystem: Overview

The processes, technologies, and mechanisms by which the organization produces goods and/or services.

Summary

“Production” and “transformation” refer to the processes, technologies, and mechanisms by which an organization produces goods and/or services. Specifically, “production” is the orderly application of processes and/or procedures designed to convert input elements (“raw materials” and/or human capital) into a set of output elements (“finished products” or services) that have increased use and economic value. “Transformation” is the actual *conversion* of input elements into output elements. While “production” refers to *systems of processes and procedures*, “transformation” refers to *change*. The term implies the use of energy--either human, or physical, or both--to effect material changes on a continuous and reliable basis.⁹

In business environments, the goals of production are to generate end products, services, or results that are desired by “customers”; to meet specific quality standards; and to generate sustaining revenue for the organization. In political or military organizations, the goals are to serve the needs (governance or defense) of a population. A successful production organization’s end products and services are generally intended to be more effective than those of its competitors. Stakeholders (e.g., customers, constituents, citizens) are willing to pay for effective products and services. Such “payment” (e.g., cash, votes, allegiance) provides the support to sustain the organization and continue production.

The production subsystem performs multiple functions including procuring input materials; providing continuous, reliable, and cost-effective production processes; assuring product quality; and distribution of the finished goods or rendering of services. The production subsystem may depend on other organizational units to function properly (e.g., sales department for orders, engineering department for product design, and the maintenance and support subsystem to keep the production infrastructure working reliably.) Procuring input materials and the shipping and distribution functions may reside outside the production subsystem (Morton, 2003, Chapter 1, pp 1-14).¹⁰

Inherent in successful production subsystems is the need for efficient task accomplishment, which is achieved through technical proficiency. A key principle in production organizations is the concept of technical specialization within both the production processes and member skills. Such specialization has resulted in improved products/services at lower cost.¹¹

Competitive production requires reliable and uninterrupted processes and procedures so that end products and services are complete and available when “customers” need them. Of particular importance are a continuous supply of raw materials and energy, trainable and energetic members of the organization, efficient production techniques and facilities, transportation of raw

⁹ Transformation can also mean a radical change that takes an organization in a new direction with profound improvement in effectiveness (<http://www.businessdictionary.com/definition/transformation.html>). However, this meaning of the term does not apply in the present context.

¹⁰ Similar information is provided in a broader context in the online course, [INTRODUCTION TO PRODUCTION AND OPERATION MANAGEMENT](#), at <http://www.newagepublishers.com/samplechapter/001233.pdf>.

¹¹ Various notions expressed here are from Katz & Kahn (1972), pp 52, 83-85, and 153-156.

materials and finished products, a stable currency, and a low-threat environment both external (cooperative society, stable government, supportive legislation, reasonable climatic factors) and internal (minimal membership issues, security breaches, accidents) to the organization.

Organizational structures that promote unambiguous assignment of responsibility and open lines of communication are essential for reliable and efficient production.¹² Within the organization's production subsystem, *operations* and *production* leadership assure production reliability and efficiency. Through observations and analysis, they can identify reliability "vulnerabilities" and implement countermeasures. Of course, they have no control over most external environmental threats such as those mentioned above. However, they may be able to help orchestrate the establishment of production and service facilities in friendlier geographical locations, consistent with the desires of the organization's senior leadership.

The processes, technologies, and mechanisms through which organizations produce goods and services are often numerous and complex. Understanding production operations and processes is important in assessing an organization's vulnerability to production disruptions. Very basic but readable introductions to operations management and production processes were prepared by Stevenson (2007) and Morton (2003).

Relevant Research Literature

Hall, R.H. (2002). Organizations: Structures, Processes, and Outcomes, Eighth Edition. Prentice Hall: Upper Saddle River, NJ 07458

Katz, D. & Kahn, R.L. (1978). The social psychology of organizations, 2nd ed. John Wiley & Sons. Inc.: NY.

Morton, T. E. (2003). Production and operations management. Vikas Publishing House.

Retrieved 1-15-13 from <http://www.newagepublishers.com/samplechapter/001233.pdf>.

Stevenson, W.J. (2007). Operations management. Mc-Graw Higher-Education. Available as an ebook from: http://highered.mcgraw-hill.com/sites/0073041912/student_view0/ebook/chapter1/chbody1/introduction.html.

¹² An excellent discussion of organizational structure and communication is provided in Hall, 2002, pp 168-178.

Q1: Reliability

How reliable is the organization's production in terms of producing product(s) of appropriate quality, at the right time, and in sufficient amounts?

Response Scale: Extremely unreliable – Extremely reliable

Summary

“Reliability of production” refers to an organization’s ability to meet the demand for its products or services through continuous or as-needed operation; maintain the quality of its products or services; minimize waste, loss, and inefficiencies; and generate predictable income as needed for sustainment (Idhammar, 2005). Providing “customers” (e.g., consumers, students, constituents, citizens) with dependable products and services generates a steady inflow of support to sustain the organization. Without reliable production, “customers” who depend on the availability of specific products and services will likely find alternative sources, or will decide to produce their own comparable product or service, and thus become a competitor. Chronically unreliable production that can’t be remedied usually leads either to the demise of the organization because it is unable to “pay its bills,” or to a significant transformation.¹³

Because quality and reliability are so important, organizations that provide goods and services generally have internal specifications and assurances to enhance production reliability and product quality. In addition, some organizations may have to meet international quality management standards such as ISO 9000. Organizations that are established quickly—perhaps even temporarily—to serve specialized production purposes are less likely to have the formal quality controls in place that are found in well-established, stable organizations.¹⁴

Many factors, internal and external, affect an organization’s production reliability. External factors include a stable environment in which to operate (i.e., political/governmental, social/cultural, economic, and climatic factors); a reliable transportation infrastructure; access to raw materials; dependable energy sources; and a qualified and/or trainable pool of members (including specialists). Internal factors include organizational structure; senior leaders’ commitment to quality of products and services; the quality of the operations management or production management infrastructure; and the quality of the maintenance and support subsystem (Husdal, 2009).

Reliable production and transformation processes sometimes come about because of specific management practices and attitudes that foster a production-oriented culture throughout the organization. In such organizations, significant quality control processes are put in place, with specific quality assurance responsibilities assigned to visible managers. The complexity and the precision of the required production and transformation processes determine the specific quality controls that are applied. The requirement for production support and maintenance may be large or small, depending on the production operations. In-house support and maintenance may be more readily available—and management may have more control over it--than contracted maintenance and support. Open lines of communication between the operating core (e.g.,

¹³ In this context, *transformation* means a radical change that takes an organization in a new direction with profound improvement in effectiveness (<http://www.businessdictionary.com/definition/transformation.html>).

¹⁴ Some organizational theorists (e.g., Martin, 2009) suggest that as an organization matures, a natural shift occurs from creativity and innovation to reliability of production. This shift is dependent on the emphasis of the leaders/managers, and may take many years in some organizations, but may occur in relatively fewer years in others.

laborers, enlisted soldiers) and middle management (e.g., production managers, company and field officers) are essential. Amicable cooperation between the production and the maintenance subsystems is also a requirement. If the products and services that the organization provides are highly profitable, or provide a substantial contribution to the organization's income, then the more likely the leaders will emphasize quality and reliability issues. On the other hand, if the organization has other substantial income, leaders may not be as interested in fixing specific reliability issues.¹⁵

Production and service organizations eventually develop reputations based on the quality of their outputs. Although quality expectations may vary slightly across cultures, most "customers" expect to get what they pay for, and they expect to get it when they need it or want it. Thus, primary contributors to an organization's reputation for reliable production are availability of products and services when needed by the "customers," and customer satisfaction with the quality of products and services. But other factors can also influence the public's image of an organization's products and services. These include news articles about production or service problems (for whatever reasons); publicly announced awards for quality, news about steps an organization takes to maintain or improve quality, public announcements about worker satisfaction, and news items indicating that other reputable organizations are either furnishing input materials to or purchasing output materials from the organization.¹⁶

Relevant Research Literature

Alchian, A.A. & Demsetz, H. (1972). Production, information costs and economic organization. *American Economic Review*, 62, pp 777-795. Retrieved 1-17-13 from

www.aeaweb.org/aer/top20/62.5.777-795.pdf

Hall, R.H. (2002). *Organizations: Structures, Processes, and Outcomes, Eighth Edition*. Prentice Hall: Upper Saddle River, NJ 07458

Hibbard, J. & Sofaer, S. (2007). Best practices in public reporting no. 2. Contract No.: HHSA290200710022T. Agency for Healthcare Research and Quality (AHRQ). Retrieved 2-13-13 from <http://www.ahrq.gov/qual/pubrptguide2.htm>.

Hogan, T. (2010). *Introduction to Reliability Excellence (Rx)*. Life Cycle Engineering. Retrieved 1-31-13 from <http://www.lce.com/pdfs/Introduction-to-Reliability-Excellence-Rx-197.pdf>

Husdal, J. (2009). *Risk & vulnerability*. Retrieved 1-20-13 from:

<http://www.husdal.com/2009/12/04/risk-vulnerability/>

Idhammar, C. (2005). *What is reliability and asset management?* Retrieved 1-16-13 from <http://www.reliableplant.com/Read/415/reliability-asset-management>

Katz, D. & Kahn, R.L. (1978). *The social psychology of organizations*, 2nd ed. John Wiley & Sons. Inc.: NY.

Martin, R. (2009). *The design of business: why design thinking is the next competitive advantage*. Harvard Business Press.

¹⁵ For further discussion of organization structure, management policy, and lines of communication issues that can affect production, the reader is referred to Katz & Kahn, 1978 and Hall, 2002.

¹⁶ Hibbard & Sofaer (2007) describe interesting methods of manipulating public image of healthcare organizations. Most of these methods can be applied to other types of organizations also.

Q2: External Threats

How vulnerable are the production facilities to external threats (e.g., blackouts, flooding, riots, heat, cold)?

Response Scale: Extremely vulnerable – Extremely invulnerable

Summary

The possibility of an organization's production processes or services being disrupted or destroyed through any means beyond its control is considered a "vulnerability." Production or service disruptions can be costly to an organization because they interfere with continuous income needed to pay members/workers, pay for expenses involved in production and transformation, and acquire more input materials for continued operation. And, the organization experiencing disruption faces the possibility of permanent customer loss. Also, if production facilities or plant infrastructure are damaged, these may be costly to repair or rebuild (e.g., Wold

& Shriner, 1997). Costly disruptions in production and services can lead to the demise of an organization.¹⁷

Husdal (2009) sites a paper (Einarsson & Rausand, 1999) describing a model of production system vulnerability that identifies two major classes of risks or “threats” to production: Those that originate from inside the organization (“internal risks”) and those from outside the organization (“external risks”). This section deals only with external risks, which the authors break down into the six factors that follow (from Husdal, 2009, p 1):

Environmental Factors: The vulnerability of an organization may depend on a wide range of environmental or natural hazards that are specific and unique to a given location.

Societal Factors: The vulnerability of a system can be linked to a range of societal and political factors leading up to an accidental event, e.g. political unrest or unforeseen price hike for spare parts leading to lesser maintenance in fear of cost overrun. The full consequences, too, may depend on the societal and political situation in which an event occurs, if the circumstances are detrimental to proper crisis management procedures.

Infrastructure Factors: Many organizations are extremely vulnerable to disruptions in one or many of these infrastructures: transportation, telecommunication, electric power, water supply, sewage, and whatever else the organization relies on. This also includes illegal penetration of premises or computer networks.

Legal and Regulatory Factors: An organization may be subject to sudden new laws and regulations, particularly following an accident or serious near accidents, or often as a result of changing political and societal factors.

Market Factors: The market has both political and social dimensions, where products or services may become obsolete or outperformed by competitors, or perhaps reputably damaged following an accident. Raw materials may become scarce or unaffordably costly.

Financial Factors: Economic decisions that go wrong (as in close to bankruptcy) are not a threat per se, but may lead to a feeling of uncertainty, which in turn becomes a breeding ground for other potential threats.

With the notable exceptions of some types of military actions, as well as weather- and earthquake-related damage to an organization’s infrastructure and transportation systems, external threats may develop gradually over time thus giving the organization an opportunity to minimize the impact, or to influence the threat. Examples may include legislation governing how certain organizations operate; social or economic change that may lead to preference for a different product or service; changes in the economy that increase the cost of doing business or sustaining the organization; or political action that affects the availability of supplies, or even the processes involved in production and transformation.

The significance of production or service disruption is a function of the severity of the threat, the steps the organization has taken to mitigate the specific vulnerability, and how well the organization is able to deal with the aftermath if a threat event occurs. Some organizations may have well-developed plans for dealing with them (Wold & Shriner, 1997). These may include stockpiling supplies and raw materials, finding alternative suppliers, identifying alternative energy sources, and establishing alternative modes of transportation (for shipping products as well as for transporting members to the production facilities). Other organizations may have production facilities in multiple locations, and if a disruption occurs at one facility, the other facilities can increase production (Handfield, 2007).

Larger, well-known organizations who are concerned about their public image are often very good at “damage control” from the public relations perspective. They may launch ad campaigns to explain what happened and what they are doing to fix the problem.

¹⁷ Much of the discussion concerning vulnerabilities is relevant to ‘for-profit’ organizations. An excellent discussion of vulnerabilities relevant to ‘non-profit’ organizations is provided by Herman, Head, Jackson, & Fogarty, 2004.

Larger organizations, often with many resources, have an advantage over their much smaller, resource-strapped counterparts, in regard to vulnerability mitigation. The larger ones can afford to perform a detailed SWOT¹⁸ or vulnerability analysis¹⁹, create plans to address the vulnerabilities identified, perhaps even purchase insurance against certain types of disruptions (Wold & Shriner, 1997), and rebuild their facilities if catastrophic damage occurs. On the other hand, small production and service organizations are often very flexible and may be able to rebuild practically anywhere because their facilities are not as costly, and they don't need as many workers and technical specialists.

Relevant Research Literature

Asbjørnslett, B E and Rausand, M (1997). *Assess the vulnerability of your production system*. Report NTNU 97018. Norwegian University of Science and Technology NTNU, Department of Production and Quality Engineering, Trondheim Norway.

Handfield, R. (2007). Reducing the impact of disruptions to the supply chain. *SASCOM Magazine*. Retrieved 1-17-13 from www.sas.com/solutions/srm/supply_risk/sascom.pdf.

Herman, M.L., Head, G.L., Jackson, P.M., & Fogarty, P.M. *Managing risk in nonprofit organizations: a comprehensive guide*. John Wiley & Sons, Inc.: Hoboken, NJ.

Husdal, J. (2009). Risk & Vulnerability. Retrieved 01-16-2013 from <http://www.husdal.com/2009/12/04/risk-vulnerability/>.

Sheffi, Y. (2005). *The Resilient Enterprise – Overcoming Vulnerability for Competitive Advantage*. Cambridge, MA: MIT Press.

Wold, G.H. & Shriner, R.F. (1997). Risk analysis techniques. *Disaster Recovery Journal*. Retrieved 1-12-2013 from http://www.drj.com/new2dr/w3_030.htm.

¹⁸ SWOT is a structured method for determining the Strengths, Weaknesses, Opportunities, and Threats associated with a project or organization (<http://articles.bplans.com/business/how-to-perform-swot-analysis/116>).

¹⁹ Resources for performing vulnerability analysis were developed by researchers at the University of Canterbury in New Zealand. A family of vulnerability assessment tools are available from <http://www.resorgs.org.nz/> and <http://www.resilientbusiness.co.nz/>

Q3: Internal Threats

How vulnerable are the production facilities to internal threats (e.g., work stoppages, insufficient demand, untrainable workforce)?

Response Scale: Extremely vulnerable – Extremely invulnerable

Summary

The possibility of an organization's production processes or services being disrupted or destroyed through any means beyond its control is considered a "vulnerability." Production or service disruptions can be costly to an organization because they interfere with continuous income needed to pay members/workers, pay for expenses involved in production and transformation, and acquire more input materials for continued operation. And, the organization experiencing disruption faces the possibility of permanent customer loss. Costly disruptions in production and services can lead to the demise of an organization (Handfield, 2007).

Husdal (2009) sites a paper (Einarsson & Rausand, 1999) describing a model of production system vulnerability that identifies two major classes of risks or "threats" to production: Those that originate from inside the organization ("internal risks") and those from outside the organization ("external risks"). This section includes only internal risks, which the authors break down into the five factors that follow (these were copied from Husdal, 2009, p 1):

System attributes: Some systems are so complex that accidents are bound to happen, for two reasons: system interaction (linear or complex) and system couplings (loose or tight).

Technical Failures and Technical Hazards: The reliability of the technical equipment and components has a significant influence on a system's vulnerability.

Human and Organizational Factors: Human factors are often considered to be the main potential for improving the safety performance in most organizations. Organizational structures with clear lines of authority, responsibilities, and reporting tend to deal more effectively with internal risks (Kaplan & Mikes, 2012).²⁰

²⁰ An excellent discussion of organizational structure and communication is provided in Hall, 2002, pp 168-178.

Maintenance Factors: Interestingly, many major accidents seem to occur during maintenance or because of inadequate or wrongly executed maintenance.

Staff Factors: This comprises strikes and labor conflicts, loss of key personnel, recruitment of skilled personnel, safety culture, unfaithful servants, liability claims (hazardous work environment), to name but a few. The personnel itself, along with the organizational factors are key ingredients in an organization's vulnerability.

As suggested above, the attitude of the organization's management toward competitiveness, product quality, safety, and member satisfaction often determines the production subsystem's vulnerability to internal threats. Production disruptions, including member sabotage, can sometimes be traced to dissatisfied employees/members who are not sufficiently compensated; have to work too many hours, at too rapid a pace, or in unsafe conditions, or are just bored and unchallenged; or are not suited to their jobs (poorly educated, untrained, or untrainable; bad attitude toward work or the organization). If the organization's leadership is determined to create a competitive entity that produces reliable, high quality products that are in demand; if they acquire the right personnel, train them as required, and treat them fairly; and if they establish a safe work environment, then internal disruptions due to "human factors" are less likely. The leaders can then turn their attention to fortifying their production or service facilities against other potentially disruptive internal threats such as technical problems and maintenance issues. Operations managers and production managers working together with senior organizational leaders can perform vulnerability²¹ or SWOT²² analyses of the production subsystem to identify specific "weak links," and develop and implement plans for ameliorating the potential threats to production. Such analyses can identify the need for improved equipment and facilities, new processes, new technologies, better training, new product designs, members with different skills, improvements in quality control, and so on. They can also identify vulnerabilities with regard to security systems, IT systems, transportation, supplies, disgruntled member sabotage, etc.²³

Not all organizations have the resources to perform vulnerability analyses and take required corrective actions. Some of these organizations may be ad hoc, temporary, and even devoid of identifiable production subsystems. Their maintenance and support subsystems may be minimal. Larger, well-established organizations typically have an advantage over their much smaller, resource-strapped counterparts, in regard to vulnerability analysis and mitigation. Distributed organizations may have production facilities in multiple locations, and if a disruption occurs at one facility, the other facilities can increase production. In smaller organizations, it is not unusual to find leaders so consumed in day-to-day operations that there is neither time nor resources available to conduct vulnerability analyses and develop contingency plans. Also, adequate member training, top-notch system maintenance, and modern, high reliability equipment are less likely to exist in small organizations. On the other hand, members in small organizations may not be represented by a union; this could reduce a potential source of work stoppage or disruption. Also, members of small organizations frequently get to know the senior leaders and managers, and grow to feel part of a team with a common mission and purpose. This

²¹ Resources for performing vulnerability analysis were developed by researchers at the University of Canterbury in New Zealand. A family of vulnerability assessment tools are available from <http://www.resorgs.org.nz/> and <http://www.resilientbusiness.co.nz/>

²² SWOT is a structured method for determining the Strengths, Weaknesses, Opportunities, and Threats associated with a project or organization (<http://articles.bplans.com/business/how-to-perform-swot-analysis/116>).

²³ Ideas expressed here were extrapolated from Katz & Kahn, 1978, and Hall, 2002.

can reduce member dissatisfaction and aid in production and service rendering. Furthermore, the production systems in smaller organizations are generally smaller and less complex. This means they may be more easily understood and repaired (with less cost), and more quickly returned to service when disruptions occur.

In general, organizations appear to have more control over internal threats than external threats to production. Except for fires and explosions, internal threats seem likely to cause somewhat less damage to an organization than external threats, and perhaps production stoppages would be shorter. External threats may be considerably more challenging for the organizational leadership to deal with.

Relevant Research Literature

Einarsson & Rausand (1999). A approach to vulnerability analysis of complex industrial systems. *Risk Analysis*, 18(5), 535-546.

Handfield, R. (2007). Reducing the impact of disruptions to the supply chain. *SASCOM Magazine*. Retrieved 1-17-13 from www.sas.com/solutions/srm/supply_risk/sascom.pdf.

Hall, R.H. (2002). *Organizations: Structures, Processes, and Outcomes, Eighth Edition*. Prentice Hall: Upper Saddle River, NJ 07458

Husdal, J. (2009). Risk & Vulnerability. Retrieved 01-16-2013 from <http://www.husdal.com/2009/12/04/risk-vulnerability/>

Kaplan, R.S. & Mikes, A. (2012). Managing risks: a new framework. *Harvard Business Review*, June 2012. Retrieved 2-19-13 from <http://hbr.org/2012/06/managing-risks-a-new-framework/ar/1> (and internal links).

Katz, D. & Kahn, R.L. (1978). *The social psychology of organizations*, 2nd ed. John Wiley & Sons. Inc.: NY.

Sheffi, Y. (2005). *The Resilient Enterprise – Overcoming Vulnerability for Competitive Advantage*. Cambridge, MA: MIT Press.

Wold, G.H. & Shriver, R.F. (1997). Risk analysis techniques. *Disaster Recovery Journal*. Retrieved 1-12-2013 from http://www.drj.com/new2dr/w3_030.htm.

Q4: Economic Changes

How vulnerable are the production facilities to economic changes (e.g., extremely vulnerable such as dependent on fuel costs, or quite invulnerable such as demand for essential foods)?

Response Scale: Extremely vulnerable – Extremely invulnerable

Summary

Economic change is a fluctuation within an economy that is reflected in manufacturing costs; the costs (and perhaps availability) of products, services, and raw materials; and significant changes in tax rates, wages, and the financial markets. Economic change can affect an organization in multiple ways, which are referred to as “vulnerabilities.”

Often correlated with economic change are member productivity measures, the percentage of the population that is unemployed, and the standard of living of the population. Economic changes are considered part of normal “business cycles,” with their inherent periods of recession and economic boom. Fluctuations that negatively affect production and employment often become offset by fluctuations that boost both. In addition to normal economic cycles, political, government, and military actions can effect economic change in either positive or negative direction. For example, in societies with multiple political parties, it is not unusual for one or more parties to support policies that are more “friendly” to the organization than those of other parties (e.g., business friendly, consumer friendly, military friendly). Such changes can positively or negatively impact the financial, political, or regulatory circumstances for the organization. Moreover, military actions can also produce economic change, as in the case of invasion or the threat of invasion. Such actions create uncertainties to which humans respond by decreasing spending for unnecessary items, which can have negative impact on the economy. On the other hand, in a society that can afford to engage in large military operations, organizations that produce goods and services needed by the military may benefit greatly, which may cause a positive change in the overall economy, especially if the military actions are viewed as successful.²⁴

Production systems are generally vulnerable to the rising cost of raw materials, energy/fuel used in production and for organizational sustenance, various services required for production, wages, taxes, and transportation. During a boom period, the best members are likely already employed and not available as replacements or for expanded production, or they may demand higher pay. As costs of materials, commodities, and membership (labor) rise, an organization may have to charge more for its products (i.e., pass the cost increases on to their customers). If the overall economy is on the rise, customers may be enjoying higher wages, and can afford to pay more for purchased items. In this scenario, the organization’s production may not be affected negatively at all. Sometimes though, organizations will experience a rise in the cost of materials related to production without a corresponding improvement in the overall economy. When this occurs, the organization is faced with having to pass along a higher cost to a customer base that may not be able to afford it.

In general, organizations in the throes of economic change respond to the challenges in any of several ways. They may cut operating expenses and develop new and more competitive products and services. In addition, they may stop the production of some products and services, find new

²⁴ Notions expressed in this section were mentioned throughout Siegel, 2002.

markets for existing product lines, merge with other (perhaps stronger) organizations, negotiate innovative financing from lenders, borrow from the government (as a temporary measure to get through the “rough patch”), reorganize, hire new leaders/managers, or sell some operating units. Less flexible organizations that are resistant to change may have the most difficulty surviving the less favorable portions of an economic cycle, and some may cease to exist.²⁵ More flexible organizations (those with more flexible management policy) may make substantial changes (“transformations”) in order to remain competitive, and to survive.²⁶ Well-established and healthy organizations usually survive economic extremes if they have been reliably producing desired products during the “normal” portions of the economy. Smaller organizations generally have fewer resources to “tide them over” during tough times. But they also have greater flexibility, with fewer resources committed to maintaining production and services. They may also be more innovative and energetic than much older companies. These characteristics can give them a competitive edge during poor economic conditions.²⁷

Relevant Research Literature

Daft, R.L. (2008). *Organizational Theory and Design*, Tenth Edition. South-Western Centage Learning: Mason, OH.

Greenspan, A. (2008). *The age of turbulence: adventures in a new world*. Penguin Group: NY.

Martin, R. (2009). *The design of business: why design thinking is the next competitive advantage*. Harvard Business Press.

North, D.C. (2003). *Understanding the process of economic change*. Princeton University Press.

Retrieved 2-3-2013 from: <http://www.scribd.com/doc/33809273/Economic-Change-Understanding-Process>

Siegel, J.J. (2002). *Stocks for the long run: the definitive guide to financial market returns and long-term investment strategies*, 3rd edition. McGraw-Hill: NY.

²⁵ Some organizational theorists (e.g., Martin, 2009) suggest that as an organization matures, a natural shift occurs from creativity and innovation to reliability of production. Thus, younger organizations may exhibit greater flexibility than ‘established’ organizations which are more oriented toward reliable production.

²⁶ For discussion of transformation and organizational death, see Hall, 2002, pp 187-200; and Daft, 2008, pp 412-413.

²⁷ Concepts presented here are discussed more thoroughly in Daft, 2008, pp 412-449.

Q5: Ability to Change Production

How easy or difficult is it (in terms of time, effort) to change the nature, type, and pace of production?

Response Scale: Extremely difficult – Extremely easy

Summary

This question addresses the degree to which an organization is able to significantly change the products and services it's capable of delivering. This change could involve developing or implementing new methods of production, implementing new manpower and training approaches; and offering products or services. Generally, these changes are implemented in an attempt to increase effectiveness and/or profitability of the organization.²⁸ Change is often necessary in order for an organization to maintain its income, pay its expenses, and deliver its goods or services. In essence, an organization's survival may depend on its ability to change.²⁹ The difficulty (or ease) with which an organization makes changes within its production subsystem may be related to organizational change in general. A complete *organizational transformation* is not necessarily implied here, but just adjustments in processes, products, production rates and services. Because it is often controlled totally within the production subsystem, is often temporary, and may not involve spending additional resources, the pace or rate of production is usually easier to change than the nature and type of products/services being produced, or the processes and technologies employed.

The factors listed below play a role in the difficulty or ease with which an organization implements changes in its production subsystem. In general, these factors apply more to changes in the types of products or services and the production methods, than to the rate or pace of production:

Size of the production subsystem. The size and complexity of an organization's production subsystem may determine the ease with which it can be changed. Changing larger and more complex systems requires more resources, including time, than smaller and simpler systems.

Types of products and services being produced. Some types of products and services require more processes, equipment, and technology than other types. The more resources an organization has invested in a production system, the less likely it is to change it. Smaller production systems in which the organization has fewer resources invested are likely to be more easily changed.

Whether or not existing facilities and equipment can be used if the nature and type of production were changed. New facilities and equipment require the investment of financial resources, and also time to build. Therefore, if existing facilities and equipment can be used in the production of new products, or if they are compatible with new production processes, change is more likely.

The resources the organization has available for making the change. The availability of resources (financial, labor, and technical) is a major determinant of change. If the resources are not available, change will not occur.

²⁸ Daft (2009, pp 410-449) provides an excellent discussion of organization change for improving competitiveness.

²⁹ For discussion of transformation and organizational death, see Hall, 2002, pp 187-200; and Daft, 2008, pp 412-413.

Labor cost following production system change. The labor pool may require extensive training to operate new equipment, or make use of new processes. New specialists may have to be recruited. These costs may be substantial, thus making change more difficult.

The attitude of leadership toward change. This is perhaps the largest determinant of change. If leadership has a clear vision of what needs to be done and where the organization is going, and is willing to involve the members in the decisions about how to get there, then change is easier than in organizations where the leadership has little vision and even less concern for the members' views (e.g., Drylie, 2012, pp 95-107).

If the organization is “for-profit,” the profit outlook after the change. If greater profitability is anticipated following the change, then the change is more likely to occur.

Time required to make the change(s). Changes to production processes and equipment can take time. An organization has to determine if it can survive until the changes are implemented. For example, if an organization is producing a product or providing a service that is its primary source of revenue, but suddenly the demand for that product or service drops to zero, can the organization sustain itself until a new product line is developed and production is resumed? If the answer is ‘no,’ then change would not occur and the organization would likely not survive.

Changes in the pace of production may be much simpler to implement and should not be time- or resource-consuming.

Whether the change is permanent or temporary (just to get through a portion of the economic cycle). If the change is temporary but requires new equipment and processes, an organization is less likely to invest in it. Changes in rate of production (not requiring changes to equipment or facilities) are usually temporary to match the demand, and require fewer resources than other types of changes.

A convincing plan for change. A plan should provide all analyses that show change is necessary, what it will cost to implement, what the results will be following the change, and what will likely happen if no change is made. The more convincing the plan is with regard to needed change, the easier it is to convince lending institutions, shareholders, workers, etc., that change is needed.

Whether or not there is agreement among management that change is necessary, and if they agree on the specific plan. For change to take place, an organization's leadership must agree on what needs to be done, and on a means for doing it.

Members' attitude toward change, the organization's future, and the plan for change. Organizational change goes more smoothly if the members agree that change is needed, and if the organization's leadership works with the membership to implement change. It is also helpful if leadership seeks inputs from the members on what needs to be changed and how it should be implemented.

Relevant Research Literature

Daft, R.L. (2008). *Organizational Theory and Design, Tenth Edition*. South-Western Centage Learning: Mason, OH.

Drylie, S.T. (2012). *Predictors and predictive effects of attitudinal inconsistency towards organizational change*. AFIT/GCA/ENV/12-M04. Air Force Institute of Technology, Air University, Wright-Patterson AFB, OH.

Hall, R.H. (2002). *Organizations: Structures, Processes, and Outcomes, Eighth Edition*. Prentice Hall: Upper Saddle River, NJ 07458.

Q6: Adequacy of Facilities

How adequate are the organization's facilities used for production?

Response Scale: Extremely inadequate – Extremely adequate

Summary

The adequacy of an organization's production facilities refers to their ability to perform the required production functions efficiently. Inadequate facilities can affect quality, output, the reliability/dependability of production, and member morale. Inadequate facilities may make it difficult for an organization to recruit and retain members, achieve desired member productivity, and minimize loss or waste associated with the production processes. Ultimately, these factors influence the desirability of the organization's products and services. Chronically inadequate production facilities may result in an organization's inability to pay members, buy required materials, and sustain itself (Chambers & Rand, 2010).

The term “production facilities” refers to most of the following: (1) the physical plant, which is the structure in which the production work is done, and associated buildings or structures (e.g., storage facilities, garages); access to the facilities (e.g., elevators, stairs, walkways, driveways, loading docks, and parking lots); and all permanent systems (e.g., heating and cooling; plumbing; lighting; electricity and other energy sources; safety/security; communications; and information technology); (2) the production subsystem, which refers to the equipment, technologies, processes, tools, and people required for transforming materials and providing services; and (3) the maintenance and support subsystem that is responsible for maintaining the production subsystem and the physical plant. In addition to supporting equipment, structures, and technology, the maintenance and support subsystem may also recruit and train personnel, pay the organization’s members for their services, purchase supplies and services, and provide shipping and receiving functions.

In order to produce dependable, high quality products and services, the production subsystem needs reliable, well-maintained production technology, processes, and tools; adequate IT support; adequate environment for members (including space to work, safety, freedom from environmental and toxic hazards, protection of members and materials from inclement weather, reasonable ergonomic accommodations such as thermal and postural comfort, adequate lighting and ventilation, limits on exposure to noise and vibration, etc.); sufficient space for short-term storing of raw materials and finished products; and reliable and efficient shipping/transportation capability. Members’ skills should be adequate for their jobs (especially for those associated with the maintenance and support subsystem).

Some indicators of the adequacy of production facilities are listed below:

Appearance of facilities. There is likely to be a positive correlation between the appearance of the exterior portion of a production facility and the adequacy of the facility itself. Both are the result of the same leadership philosophy or style. Attractive, well-kept grounds and buildings give passersby the impression that the leadership promotes being the best at whatever the organization does. Of particular importance is the condition of buildings (especially roofs, windows, and siding for shielding members and materials from weather elements).

Interior space. The amount of interior space required depends on the number of members, the number and size of machines involved in production, and the size of the raw materials and finished products that the members must handle. If the production manager or operations manager has optimized the production subsystem for efficiency, then space is likely to be adequate. If not, then some processes may have to be stopped to allow for the starting of other processes, even though running both processes simultaneously would be the most efficient. Or, members may bump into each other, or have to take extra steps to move around each other.

Frequency and duration of disruptions in production. Customers and consumers may not be aware of occasional short disruptions in production processes due to facility problems if they do not result in the unavailability of desired products and services. However, long facility-related disruptions resulting in the organization’s inability to deliver products and services will definitely be noticed, and will affect the organization’s reputation.

Cost to produce each item relative to the competitors’ costs. Disruptions affect the revenue stream, and the ability of the organization to pay its bills. Losses (damaged materials, large amount of products that can’t be sold because they don’t meet specifications, etc.) can seriously affect the organization’s profits (assuming a ‘for-profit’ organization), and make them less competitive (i.e., other organizations can provide the same products and services at greater profit). Large amounts of wasted products and materials (in comparison to those wasted by

competitors making similar products) could be a sign of low, or no, profitability, and inadequate facilities.

Members' view of the facilities. Chronic complaining by employees concerning their work environment can be a sign of inadequate facilities. However, similar complaints can be caused by other sources of dissatisfaction.

Management attitude toward production and resource availability. In general, if an organization's primary function is production and transformation, then leadership is usually very engaged in the production processes, and wants them to be as efficient and effective as possible. Longevity and sustainable or increasing profitability are likely to be among management's foremost goals in 'for-profit' organizations. Fulfillment of mission or purpose and organizational sustainment are generally the primary goals for 'non-profit' organizations. To meet both types of goals, production subsystem facilities must be adequate (i.e., able to perform their functions efficiently). Management's ability to improve the adequacy of facilities is generally limited by the resources available. The amount of resources spent on production facility improvements is not always linearly related to quantity and quality of products and services. It is possible for an organization to spend vast sums on facility and process improvements without a corresponding increase in profitability and desirability of products. In such cases, the resource expenditure results in losses to the organization as opposed to increased profit.

Larger organizations with the resources needed for performing formal analyses of their production subsystem adequacy can find out where to spend resources on the production facilities to maximize their benefit. Smaller organizations, or those that are less profitable, may not have the resources for such analyses, and sometimes wind up employing a less effective trial-and-error approach for how to spend their limited resources.

Relevant Research Literature

Chambers, A. & Rand, G. (2010). *The operational auditing handbook: auditing business and IT processes*, second edition. John Wiley and Sons, Ltd.: The Atrium, Southern Gate, Chichester, West Sussex, PO19 8SQ, UK.

Wold, G.H. & Shriver, R.F. (1997). Risk analysis techniques. *Disaster Recovery Journal*. Retrieved 1-12-2013 from http://www.drj.com/new2dr/w3_030.htm.

Q7: Production Efficiency

How efficient is the organization's production operation?

Response Scale: Extremely inefficient – Extremely efficient

Summary

Efficiency is one measure of how well the production or transformation process is performing.³⁰ A simple definition of efficiency is the ratio of products produced or services rendered divided by the input resources (e.g., raw materials, labor hours, energy) consumed. Production efficiency often determines profitability of a ‘for-profit’ organization; and is an indicator of resource stewardship in non-profit organizations. Production inefficiency is wasteful, and it increases the cost of goods and/or services. Higher prices of products (which may lead to fewer customers) and lower profit margins cause the producing organization to be less competitive. Also, excessive consumption of input materials that are possibly in short supply could give the organization a bad reputation among its customers and society as a whole.

Efficiency is a relative measure: Determining if an organization’s production operation is efficient generally requires comparing it to other organizations offering similar products and services (e.g., Baldwin, et al., 2008, p. 11). If one organization can provide products and services of better quality, at a lower cost, and for greater profit than another, then it can be assumed to have a more efficient production subsystem.

The factors affecting the production efficiency of any organization are generally related to structure, processes, equipment, and members, as well as the knowledge and capability of the leadership. The structure refers to how people, systems, and processes are grouped, as well as how leadership is organized. Many different structures exist, and it is difficult to assess the impact of organizational structure on production efficiency without extensive study and analysis of the specific organization. The most efficient and effective structure for one type of production or service is not necessarily ideal for another. On the other hand, production processes and equipment generally have a major quantifiable impact on efficiency across most organizations. Equipment that is reliable and processes that save raw materials, energy, and labor hours are

³⁰ Efficiency is but one measure of performance of the production subsystem. Others include effectiveness, quality, timeliness, productivity, and safety (ORAU, 1996, pp 1-5).

more efficient. Also, a leadership team that is focused on cost-effectiveness will constantly look for ways to improve efficiency, and will stay abreast of new approaches and technologies that purport to be more efficient. Good leadership will also make sure that members are properly trained in using new technologies and equipment, and will reward them for identifying ways to improve efficiency.

To determine production efficiency, it is necessary to know the amount of raw materials, energy, and labor hours used to produce a certain number of products or to provide certain services (Riley, 2012). For for-profit organizations, another measure is the amount of profit made on each item produced. For non-profits, especially those rendering services, the amount of materials and energy used to complete a task or fulfill mission requirements can be used as measures (Wakid, 1998).

Given that profitability is usually the primary goal of ‘for-profit’ organizations, production efficiency is a highly-studied topic. Formal analyses have been developed to quantify production efficiency. The purpose of such analyses is to control the cost of production. Excellent resources for defining and measuring an organization’s production efficiency can be found at several government and university websites [e.g., the Oak Ridge Associated Universities (www.orau.gov/pbm/handbook/1-1.pdf), and the Office of the Auditor General of Canada (http://www.oag-bvg.gc.ca/internet/English/meth_gde_e_20331.html)].

Organizations that are ‘not-for-profit’ (e.g., military, governmental, charitable organizations) may also be interested in production efficiency because they often operate with limited budgets, and they need to make certain those resources are being spent for maximum benefit. In addition, it is likely that efficiency is positively correlated with an organizations’ likelihood of achieving its purpose and mission, which is as important to the ‘not-for-profit’ as it is to the ‘for-profit’ organization. Outside organizations that provide funding for ‘not-for profit’ and ‘non-profit’ organizations are especially interested in the recipients’ wise use of resources, and whether or not they achieve their mission or purpose (Wakid, 1998).

Ad-hoc organizations established to meet specific temporary production or service goals, with no intention of longevity, may be much less interested in achieving and maintaining production efficiency than organizations whose reputations and future sustenance depend on long-term production. For ad-hoc and temporary organizations, simply meeting the immediate production requirement may be all that matters. This is likely the case for small militia groups and other organizations that have a very specific mission to accomplish, where the production goals are required only for fulfilling the mission goals, and nothing more.

Efficiency of production operations is related to the adequacy of production facilities. Adequacy implies that the organization has what it needs for an effective operation, including reliable technology that is sufficiently modern to help maintain the organization’s competitiveness. Production efficiency is a large part of remaining competitive. More successful organizations have more efficient production operations than their less successful counterparts. Many continue to watch for opportunities to improve efficiency. Large organizations usually have the resources to invest in equipment and technologies to improve efficiency. Smaller or less successful organizations often do not have the resources for analyzing production efficiency and taking steps toward improving it, even though they may have a greater need.

Relevant Research Literature

Baldwin, J.R., Gu, w., & Yan, B. (2008). Relative multifactor productivity levels in canada and the united states: a sectoral analysis. *The Canadian Productivity Review*--2008, retrieved 2-10-2013 from www.statcan.gc.ca/pub/15-206-x/15-206-x2008019-eng.pdf.

ORAU, (1996). www.orau.gov/pbm/handbook/1-1.pdf

Riley, J. (2012). Production – measuring efficiency. Retrieved 1-19-2013 from http://www.tutor2u.net/business/gcse/production_efficiency_measures.htm

Office of the Auditor General of Canada, (2007). 2. Understanding efficiency concepts. Retrieved 1-19-2013 from http://www.oag-bvg.gc.ca/internet/English/meth_gde_e_20331.html

Wakid, I.A. (1998). *Measurement of production efficiency in not-for-profit organizations: an application and extension of GASB concepts statement no. 2.* A dissertation presented to the faculty of The Graduate College at the University of Nebraska in partial fulfillment of requirements for the Degree of Doctor of Philosophy, Lincoln, NE, Dec. 1998. Retrieved 2-13-2013 from <http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=8897&context=dissertations>

4.12 Reward and Motivation Subsystem: Overview

The tangible and intangible means by which the organization instigates, continues, regulates, and terminates member efforts.

Summary

Motivation is one of the most critical issues in all of organizational effectiveness. Having and maintaining a motivated workforce is a continual concern of every organization. This subsystem involves various forms of motivation. It concerns the tangible and intangible means by which the organization instigates, continues, regulates, and terminates member efforts. Motivation focuses on corresponding aspects of the members' behaviors: initiating (instigate), maintaining (continue), controlling (regulate), and stopping (terminate). When considering motivation, it is also important to understand the different dimensions of the effort. These include the *direction* of effort or behavior (e.g., adjusting widgets), the *strength* of the effort (e.g., adjust 34 widgets/hour), and the *duration* of effort (e.g., adjusting widgets for 8 hours a day).

Motivation is often seen to derive from both internal and external forces. Many aspects of motivation are considered to be internally driven (e.g. people have ambition, curiosity, laziness, or desire to avoid certain things). Alternatively, we also recognize that motivation often results from external forces, such as bonuses, peer pressure, supervisor commands, and rewards. The external forces are tangible means of motivation that managers in the organization can more easily control. Because managers control the organizational setting, they can facilitate or hinder members' efforts by exercising that control. We usually consider the internal forces as intangible. However, organizations often attempt to select members based on the internal motivation traits they display (e.g., achievement motivation). Also, by arranging the organizational setting appropriately, managers can influence the ease or difficulty by which members can engage in behaviors that are consistent with their internal traits or forces. For example, the organization can set up conditions that either stifle or encourage certain internal motivation traits (e.g., creativity, initiative, or risk taking). So, it is important for managers in an organization to understand that the management of motivation involves both tangible (e.g., rewards) and intangible (e.g., traits) means. All of these factors (i.e., internal and external forces; direction, strength, and duration of efforts; initiating, maintaining, regulating, and terminating behavior) reflect the considerations of the motivational system employed by the organization. Rewards are the most direct way that organizations try to influence efforts in organizations. By paying members a salary, they can get the members to put forth their efforts on behalf of the organization and not for some other organization or endeavor. By telling members they are doing a poor quality job (sanction or negative reward, disincentive), it is hoped that the members will correct their efforts to improve their performance. Use of rewards to encourage or discourage certain behaviors is fraught with problems. The organization's compensation schedule incorporates salary as a type of reward, but if it is applied poorly, dissatisfaction and reduced motivation can result. Also, if a sanction or negative reward is applied inappropriately, the member who receives this sanction may react in a number of counter-productive ways. So, the reward system has to be sophisticated enough that it produces the desired member efforts; and it must be applied consistently and fairly to avoid producing undesirable behaviors.

Relevant Research Literature

There is so much written on motivation that it is hard to focus on just a few sources. However, there are a number of good textbooks on motivation. Pinder (1984) is still seen as a classic overview that is clear and comprehensible. Pinder (2008) has expanded on these notions in a more comprehensive and higher-level discussion of motivation. Additionally, a good organizational behavior (e.g., Wagner & Hollenbeck, 2009) or industrial/organizational psychology (e.g., Schultz & Schultz, 2010) textbook will also give a good introduction to the material.

Pinder, C.C. (1984). *Work motivation: Theory, issues, and applications*. Dallas, TX: Scott, Foresman and Company.

Pinder, C.C. (2008). *Work motivation in organizational behavior* (2nd ed.). New York: Psychology Press.

Schultz, D. & Schultz, S.E. (2010). *Psychology and work today: An Introduction to Industrial and Organizational Psychology* (10th ed.). Upper Saddle River, NJ: Pearson HigherEducation.

Wagner, J. & Hollenbeck, J.R. (2009). *Organizational behavior*. New York: Routledge.

Q1: Fair Reward Distribution

How fairly do organizational members believe that the material rewards they receive from the organization are distributed?

Response Scale: Extremely unfairly distributed – Extremely fairly distributed

Summary

Individuals join organizations to a large degree for the benefits they believe they will receive from their membership. Similarly, organizations recruit members who will positively contribute to the organization and its efforts. In this situation, the member and the organization are engaged in an exchange in which they offer benefits and incur costs with regard to each other. This question focuses on how fairly the organization's members perceive the costs and benefits of their membership are distributed. This is known as *distributive fairness*. It represents the members' perceptions of how fairly they are being treated in terms of the outcomes they receive from the organization relative to the inputs (contributions, effort) they provide the organization. It is important not to underestimate the impact that perceptions of fairness have on organizational members' thoughts, feelings, and actions toward the organization and the others with whom they interact.

Organizational members routinely appraise how they are being treated in the organization. When making this appraisal, they take into consideration the perceived treatment of other members of the organization who are similar to them. In addition, these members also compare how they are treated relative to how they expect to be treated. When making these comparisons, organizational members weigh the outcomes they receive from the organization (both the positive and negative) with the inputs (contributions, efforts, talents) they bring to the organization in their position (positive and negative as well). For example, the claim that "They don't pay me near enough to deal with this!" reflects the outcomes received relative to the inputs given to the organization. The organizational members realize that the outcomes that different members of the organization receive should vary, but they believe that they should vary relative to inputs the members provide the organization. When the member perceives inequity between relative inputs and outcomes, the member is likely to perceive the situation as being unfair.

There are a number of important points that need to be made about how members perceive this relative comparison of outcomes and inputs. First, this situation is treated as it is *perceived* by the member. These perceptions may be biased and may not completely reflect the true state of the relationship with the organization. Second, the inputs and outcomes involved in the transaction must be *recognized* by both sides. A member might believe that his or her college degree is an important contribution, but the organization does not account for that in its wage scale or the way members are treated. Likewise, the organization may perceive that it is providing a safe, warm, and inviting place to work but the organizational member does not recognize that as an outcome he or she receives. Also, the inputs and outcomes have to be perceived as *relevant* to the work done in the organization. For example, much of the conflict in management-labor relations stems from disputes over how relevant seniority is as an input (tenure or years of experience) relative to production and performance. As a function of these conditions used in the appraisal of inputs and outcomes, there are good reasons to understand why conflict in organizations erupts over fairness in terms of how people think they should be treated relative to how they feel they are treated.

When people perceive they don't receive the outcomes relative to their inputs they judge this situation or interaction as unfair, unjust, and inequitable. They then react to this unfairness in terms of their thoughts, feelings, and actions. When organizational members perceive that they don't receive the outcomes they expect (e.g., pay, raises), they react with dissatisfaction. They hold negative opinions about that aspect of their work (e.g., pay) and the organization that produced this unfair outcome. Also, when people feel they are treated unfairly, they feel angry about the interaction. Anger is a motivating emotion and it leads people to act. They often act out or lash out at others.

From a theoretical perspective, there are five ways that people are likely to react to feelings of being treated unfairly. (1) They will attempt to change their outcomes. For example, if they feel they didn't get the raise they deserve, they will go to their supervisor and express their dissatisfaction with raise and argue that the supervisor should correct the injustice. (2) They will change their inputs. When a person doesn't believe that they were treated fairly and it might not be possible to change the outcomes (e.g., across the board raises), they can re-establish a fair relationship by changing the inputs they provide the organization. In this way, when an organization undervalues a person's contributions, the person can diminish their contributions (e.g., working less hard or with poorer quality). (3) A third way a person can react to the perceived unfairness is to decide that they are comparing themselves to the wrong person in the organization. If a person works with someone who has a higher salary, the person may decide that this isn't unfair because the other person is sufficiently different from them in the number of years of experience. So, the person decides it is inappropriate for them to compare themselves to this person who is different in important ways. (4) As mentioned, fairness and unfairness is perceived. Consequently, people can deceive themselves into believing that a situation or interaction is not unfair. They can construct reasons why their inputs are not as valuable, why the other party's inputs are more valuable, and any number of ways of deceiving themselves that they are not mistreated, but that they get what they deserve. Humans have a tremendous capability to distort their realities so that they face the reality that they want to believe. (5) A fifth way of responding to unfairness is a response that is generally available in any voluntary exchange. That is, we can leave the situation or interaction. We can leave our relationship with the organization, resign our position, and quit our jobs. This is generally not the first option used to resolve unfairness, but it does exist. And for some people, this is the only reasonable way of interacting with an organization that they feel is treating them unfairly. All five of these behavioral reactions to perceived unfairness are possible and the person perceiving the unfairness is motivated to respond in the way that will most easily restore a perception of fairness. Note that from these five behavioral reactions, a person might be willing to act toward the organization in a non-constructive fashion. For these reasons, it is vital that organizations be concerned about how members perceive the fairness in outcomes.

Relevant Research Literature

This discussion of distributive fairness draws heavily from equity theory. Notions of equity theory, distributive fairness, and the importance of perceived fairness are covered in a well written chapter in Pinder (1984) with a more research based focus in Pinder (2008). Also, a good organizational behavior (e.g., Wagner & Hollenbeck, 2009) textbook will also give a good introduction to the material.

Pinder, C.C. (1984). *Work motivation: Theory, issues, and applications*. Dallas, TX: Scott, Foresman and Company.

Pinder, C.C. (2008). *Work motivation in organizational behavior* (2nd ed.). New York: Psychology Press.

Wagner, J. & Hollenbeck, J.R. (2009). *Organizational behavior*. New York: Routledge.

Q2: Rewards for Helping

To what degree does the organization reward the members' efforts that are directed at helping other organizational members in their work or that contribute to the long term effectiveness of the organization (in contrast to rewards directed solely at what the organization produces)?

Response Scale: Does not reward helping or long-term contributions to effectiveness at all –
Almost always rewards helping or long-term contributions to effectiveness

Summary

Organizations generally focus on the performance and productivity of their members, and they direct rewards to the members as a function of the members' performance and productivity. However, research and related literature argues that variables other than performance and productivity (including quality, efficiency) need to be considered when trying to enhance the overall effectiveness of the organization. One category of these other variables is known as *organizational citizenship behavior* (OCB). Organizational citizenship behavior reflects those behaviors that members engage in that positively contribute to the overall effectiveness of the organization or work unit, but are not part of the minimum requirements expected of the members as they fulfill their roles in the organization. These OCBs reflect what is known as “being a good soldier,” “going the extra mile,” “being a team player,” “going beyond the call of duty,” and generally being helpful to others in the organization when it is not required or expected.

There are certain conditions that make a behavior an OCB for an organization. (1) The behaviors positively impact the organization or work unit's effectiveness. (2) These behaviors are not conditions of membership, and leaders of the organization cannot force them (e.g., working late). (3) If a member does not perform OCBs they will not suffer penalties. (4) The behavior supports or benefits the efforts of other members of the organization. (5) The members engage in the OCB at their own discretion.

There are many categories and examples of organizational citizenship behaviors. One form of OCB is the knowledgeable and helpful colleague who is willing to cooperate and lend a hand. OCB can be reflected in actions in which the member initiates actions without prompting or requests. OCB can also be seen in the helpful and approachable manager who helps new members get oriented to the organization. Other examples of OCBs include being cooperative with peers and staff members, performing duties not in one's job description without complaint, being punctual to work and meetings, volunteering to help others for off-work organizational functions, being diligent in conserving the organization's resources, sharing ideas with others, finding and pursuing ways to improve organizational functioning, and being a positive representative of the organization outside of work activities.

If organizations reward these OCB and helping behaviors, the behaviors are more likely to occur. This provides flexibility and adaptability. If the organization does not reward the behaviors, they will eventually disappear. In some hostile work environments, the members might engage in efforts called "working to rule" in which the members do only what is expected and specifically required of them. All OCB and helping behaviors are removed from the members' efforts. The organization generally suffers losses in effectiveness when such "work to rule" efforts are carried out.

Organization members who typically engage in OCBs may be considered the "good" employee or "good" soldier, although they may not be the best performers. They are often known for being helpful and for going above and beyond job requirements. Also, because OCBs are not required for most positions in organizations, they are more likely to vary across members than levels of performance. These helping behaviors do not require special abilities or knowledge, so all members should be capable of performing the OCBs if they chose to. Consequently, it is believed that OCBs are more likely to occur among members who are committed to the organization and its goals, who are satisfied with their job and duties in the organization, and (importantly) who are rewarded in some way for their helpful behaviors. Therefore, organizations and their managers can do much to enhance or diminish how frequently their members engage in these OCBs. Managers can enhance organizational citizenship behaviors by observing and rewarding them, and by establishing a more general reward system that incorporates incentives for the OCBs along with other measures of performance. Likewise, managers can diminish OCBs by failing to recognize and reward them, or even worse, by punishing those who perform them.

OCBs have been found to influence organizational effectiveness in various ways. The occurrence of OCBs in organizations are associated with reduced costs, enhanced workgroup efficiency, decreased inter-group conflict, increased profitability, and enhanced well-being of members. Organizations are also more effective if their members are fully and responsibly engaged in the organization's activities, which is more likely when OCBs occur across the organization. OCBs also result in greater managerial efficiency because managers can focus more on difficult problems as well as the strategic planning that will lead the organization to thrive in a variety of

circumstances. Interestingly, ethical behavior may also be more likely in the face of temptation if there are more OCBs in the organization.

Organizational citizenship behaviors seem to have their greatest impact on organizations in periods of change and crisis. Under these circumstances, doing things the same way will only continue the crisis, yet the organization is under great pressure to maintain or enhance effectiveness. The organization needs to be flexible and to adapt to changes which will necessarily result in challenges for the members in their daily work activities. By helping each other out, focusing on overall effectiveness, and solutions to common problems, the members can help each other be more effective and have a more constructive response to the crisis conditions. In this regard, OCBs may be vital to survival of the organization.

Relevant Research Literature

Dennis Organ (1988; Organ et al. 2006) has done the seminal work on organizational citizenship behavior. Nevertheless, the conceptual notion of the importance of helping behaviors for organizational effectiveness is part of the literature on organizations in many textbooks (e.g., Wagner & Hollenbeck, 2009).

Organ, D. W. (1988). *Organizational citizenship behavior: The good soldier syndrome*. Lexington, MA: Lexington Books.

Organ, D.W., Podsakoff, P.M. & MacKenzie, S.B. (2006). *Organizational citizenship behavior: Its nature, antecedents, and consequences*. Thousand Oaks, CA: Sage.

Wagner, J. & Hollenbeck, J.R. (2009). *Organizational behavior*. New York: Routledge.

Q3: Perceived Fair Procedures

Do the members of the organization perceive the procedures used for rewarding them are fair?

Response Scale: Procedures are perceived to be extremely unfair – Procedures are perceived to be extremely fair

Summary

The degree to which members believe they are being treated fairly or unfairly in the organization has a dramatic impact on how those members think about, feel about, and act toward the organization and those individuals who represent the organization. In this subsystem, the issue of fairness is covered by two questions. A different question (Q1) deals with distributive fairness which is how fairly outcomes are distributed among organization members (e.g., raises, layoffs, promotions). This question (Q3) deals with what is termed and known as *procedural fairness* or procedural justice. In organizations, procedural fairness is concerned with the members' perceptions that the procedures used to make decisions are administered fairly, impartially, and according to accepted standards and rules of the organization and/or the larger society. This question is relevant to the Reward and Motivation subsystem because it concerns how fair or unfair the organization's system of administering rewards is perceived to be. Moreover, members' perceptions of fairness have a large impact on how motivated the members are in their efforts on behalf of the organization or in opposition to the organization and its representatives. The fairness of the outcomes of decisions (distributive fairness) and the fairness of the processes and procedures used to determine the outcome (procedural fairness) are independent notions, both conceptually and in the minds of organizational members. In both the case of negative outcomes and poorly administered procedures, organizational members can argue that "It just isn't fair!" There are a variety of consequences of perceived unfairness in organizations including retaliation and counter-productive behavior on the members' part. Yet, a system of fair administration of procedures in the organization is relatively inexpensive to implement and can produce real benefits.

There are a number of ways that procedural fairness, and accordingly, procedural unfairness, can arise in an organization. (1) Organizational procedures should remain consistent across people and time. That is, different people should not be treated differently under the same rules, and the rules should not be changing arbitrarily. (2) A fair procedure is likely to be based on shared ethical standards of that society and organization. (3) Fair procedures take into consideration the concerns of the administrator of the reward or punishment, the recipient of the reward or punishment, and others who will perceive how the recipient is treated, particularly relative to themselves. (4) Fair procedures should be free from bias (e.g., race, age, gender, ethnicity, family ties). (5) Fair procedures result when accurate information is used to determine the outcome. (6)

Fair procedures include a mechanism by which decisions that are perceived as being unfair can be appealed and corrected.

In addition to these aspects of fair procedures, there are also things the administrator can do to have the rules be perceived as being procedurally fair. (1) Procedures are perceived as more fair when the administrator acts in a neutral manner. (2) An administrator is perceived to use fair procedures when the intentions of the administrator can be trusted rather than when the recipient believes there is an ulterior motive or some other intention behind the action. (3) Procedures are likely to be perceived as more fair if the administrator shows respect for the recipient and the recipients' rights as well as other parties affected by decision.

There are a number of consequences associated with procedural fairness and unfairness in organizations. Procedural fairness influences member satisfaction and opinions about the organization and those who administer the procedures. If a member receives fair treatment in the procedures administered, they are less likely to quit the organization and are more likely to remain loyal to the organization. Procedures that are perceived as unfair are likely to produce resentment on the part of the members and then they will be less willing to understand the decision and its outcomes. The unfairness that organizational members perceive can result in retaliation against those who administered the unfair procedure or against the organization.

When there is procedural unfairness by the organization, it lowers the evaluation of the whole organization by its members. Moreover, it undermines the loyalty to the organization and those who represent the organization to the members treated unfairly. Also, when many members of the organization perceive that the procedures are being administered unfairly, collective action can easily result. It is important to note that the fairness and unfairness being discussed here is *perceived* and as such, is very susceptible to information or actions that influence the perceptions of members of the organization.

Relevant Related Research

Issues of procedural fairness in organizations are generally considered in textbooks on organizational behavior (e.g., Wagner & Hollenbeck, 2009) as well as in human resources management textbooks (e.g., Noe, Hollenbeck, Gerhardt, & Wright, 2010) particularly when compensation programs are discussed. An early discussion of procedural justice is that of Lind and Tyler (1988). Beugré (1998) puts this more clearly in organizational contexts.

Beugré, C.D. (1998). *Managing fairness in organizations*. Westport, CT: Greenwood.

Lind, E.A., & Tyler, T.R. (1988). *The social psychology of procedural justice*. New York: Plenum.

Noe, R.A., Hollenbeck, J.R., Gerhardt, B. & Wright, P.M. (2010). *Human resource management*. New York: McGraw-Hill/Irwin.

Wagner, J. & Hollenbeck, J.R. (2009). *Organizational behavior*. New York: Routledge.

Q4: Fashion in which Punishment is Used

Are punishments and sanctions meted out in the organization conducted in a fashion such that they are likely to produce respect or antagonism on the part of its members?

Response Scale: Extremely likely to produce antagonism – Extremely likely to produce respect

Summary

The motivation members of an organization have toward fulfilling their duties and responsibilities is influenced in many ways, including the way the members are treated and the way they perceive they are treated. As supervisors consider how to guide, direct, and motivate their subordinates, they play important roles in the reward and motivation subsystem. A critical capability for constructively influencing motivation involves appropriately using punishments and sanctions with regard to their subordinates. Yet, there are a number of pitfalls associated with the use of punishments in managing subordinates. These can result in subordinates responding to the application of punishments and sanctions in negative, unproductive, destructive, and antagonistic fashions. Hence, the proper application of punishments in organizations has the potential to guide and direct members' efforts as well as the peril of resulting in negative reactions including destructive behavior and antagonistic attitudes. Generally, supervisors do not want to use punishments to modify the behavior of subordinates. Rather, they want to train and model the appropriate actions which can then be rewarded. However, certain behaviors are so detrimental to the organization or risk the welfare of other organizational members that some sanction or punishment must be applied to eliminate the behavior as well as ensure that it is clear the behavior will not be tolerated. For example, organizations with combustible fumes in the work area forbid their workers from smoking or bringing a lighter on the premises. The organization announces and enforces a rule that anybody entering the premises with a lighter or cigarettes is immediately terminated. The possible loss of life, injury, and damage caused by an explosion requires the application of a punishment if the behavior occurs. Punishments and sanctions can also be applied to reduce or eliminate undesirable member behaviors (e.g., tardiness, absenteeism, theft, bullying, substandard performance, insubordination, desertion).

The example above illustrates some of the key elements that make a punishment effective (Arvey & Ivancevich, 1980; McGregor, 1967). (1) The organizational members know that the specific behavior will be punished. (2) The members know exactly what the punishment will be. (3) The punishment is applied immediately after the behavior occurs. (4) The punishment is commensurate with the negative outcomes the behavior will produce. (5) The punishment is applied uniformly to anyone who performs the undesirable behavior (e.g., even top level managers). In addition, the organization in this case acts positively to eliminate the behavior by helping members who are smokers to quit smoking and to help pay for smoking cessation programs for its members. Note that in this fashion, the organization guides and directs the actions of its members to engage in the (safe) behaviors it desires while demonstrating there will be unambiguous, immediate, and uniform application of the punishment if the undesirable behavior is committed.

Failure to apply each of the five conditions of proper application of punishment will result in the punishment being ineffective and can result in undesirable and unintended consequences.

In anger, managers often punish members because of some behavior they perceive as egregious and deserving of sanction. However, the same managers may believe that the punished individuals should know what they have done wrong and fail to tell the individuals exactly what

the unacceptable behavior is. In this case, the punished individual may perceive that the manager punishes in a capricious fashion.

Threats of punishment are often made in organizations if some behavior is (or is not) performed. Yet, the exact nature of the punishment is not described. Again, the organizational members do not learn the intended consequence, but instead that the organization is willing to punish its members (rather than reward them). Moreover, the threat of punishment can result in feelings of fear and anxiety on the part of the members, which can also interfere with the member's motivation to perform the desired behaviors.

A major problem with applying punishment is that the undesired behavior is often not detected immediately (e.g., pilfering of organization resources). If the behavior is important enough that the organization is willing to apply punishments, then it also has to monitor these critical behaviors so they are not performed. Otherwise, what the organizational members learn is "not to get caught." The members then continue to engage in the undesired behavior, but also learn how not to be detected, defeating all of the organization's efforts to eliminate the desired behavior. Organizations also often fail to make sure that the punishment fits the behavior. If the punishment is too weak, it doesn't act as a deterrent but merely as further motivation to avoid getting caught. If the punishment far exceeds the negative consequences of the behavior, the organization will be perceived as being very punitive and as seeking ways to be vindictive towards its members.

Organizations also tend to allow certain members to be immune from punishments. Low level members of the organization will be punished severely for behaviors that are ignored (or sometimes rewarded) by those in the upper echelons of the organization. This hypocrisy is easily detected and noted by members of the organization and will undermine the effectiveness of the organization's entire reward and motivation system.

Organizations, and their leadership, often fail to apply punishments in an appropriate fashion and suffer the undesirable consequences. One way this happens is by punishing an individual in the front of others, often as a way of "sending a message" or to "set an example" to the others (Trevino, 1992). In this way, the punished individual suffers not only the punishment, but the added humiliation of being punished in front of peers. A person who might otherwise learn to eliminate the inappropriate behavior if the punishment is applied appropriately, might respond with hostility and antagonism to the added humiliation of being punished in front of others.

Additionally, it is not clear what the observing members of the organization learn from the public punishment of the individual other than that the person giving the punishment is negative and mean toward organizational members. Organizations and supervisors who are not extremely careful in punishing their members often generate much resentment and antagonism towards them. The resentful and antagonistic members can then act in retribution toward the organization and its leadership in very destructive ways (e.g., sabotage, physical attacks, treason), making these resentful members obviously ripe for enticements from other organizations seeking to impair the organization.

Relevant Research Literature

The research literature on punishment in organizations is rather limited because it is not easy to ethically apply punishment to study its effects. Nevertheless, Arvey and Ivancevch (1980) have reviewed this literature. A general discussion of punishment and the related issues of discipline in organizations are often covered in textbooks on human resource management (e.g., Noe,

Hollenbeck, Gerhardt, & Wright, 2010) and organizational behavior (e.g., Wagner & Hollenbeck, 2009).

Arvey, R.D., & Ivancevich, J.M. (1980). Punishment in organizations: A review, propositions, and research suggestions. *Academy of Management Review*, 5, 123-132.

McGregor, D. (1967). *The professional manager* W.G. Bennis & C. McGregor (Eds.). New York: McGraw-Hill.

Noe, R.A., Hollenbeck, J.R., Gerhardt, B. & Wright, P.M. (2010). *Human resource management* (7th ed.). New York: McGraw-Hill Irwin.

Trevino, L.K. (1992). The social effects of punishment in organizations: A justice perspective. *Academy of Management Review*, 17, 647-676.

Wagner, J. & Hollenbeck, J.R. (2009). *Organizational behavior*. New York: Routledge.

Q5: Rewards Aligned with Goals

To what degree are the rewards provided aligned with the truly desired behaviors, or do the rewards reinforce behaviors that are mis-aligned with organizational goals and objectives?

Response Scale: Rewards are extremely misaligned with the truly desired behaviors – Rewards are extremely aligned with the truly desired behaviors

Summary

An organization's reward subsystem is used to motivate the members of the organization and to enhance the likelihood that the desired goals are met. However, it might well be the case that the behaviors being rewarded are not well-aligned with the desired goals and outcomes. In this case the reward system is flawed. This is a common a problem in organizations that has the effect of reducing the chances of the organization meeting desired goals.

One way the problem of misaligned goals and reward systems is illustrated (and labeled) is in a classic and poignant article titled "On the Folly of Rewarding A, While Hoping for B" (Kerr, 1995). Organizations frequently hope their members will engage in behavior B, but only reward behavior A. For example, a supervisor might reward members for getting projects done on time, but frequently lecture them about the importance of quality in their work product. Since

timeliness of the product is rewarded, why would a reasonable person put much emphasis on quality if there are no consequences for quality? There are numerous examples from various arenas (i.e., politics, policy, medicine, government, military, education, sports, etc.), and Kerr (1995) describes a number of these examples in detail.

To determine if the rewards are misaligned with organizational goals, one must first find out what is actually being rewarded by the organization, not just a restatement of the goals. For example, organizations often claim that teamwork on the part of members is essential for overall effectiveness, but in practice, the organization only rewards individual accomplishments. It is folly to believe that reasonable organizational members will follow the stated behavioral expectations when they are counter to what is being rewarded. One reason that behavior A will get rewarded while B is touted as the goal is that the organization might focus on objective criteria that are measurable (A) but that might not reflect the desired outcomes (B). Similarly, the important behaviors organizations often desire (B) are more abstract and not clearly visible. Rather than finding a way to reward the desired behaviors, rewards focus on the highly visible behaviors that can be easily observed (A).

Organizations frequently implement misaligned rewards systems that ultimately lead to frustration on the part of organizational leadership and the members. If the organization does a conceptual analysis of what is actually rewarded versus what operational goals it is trying to achieve, it is possible to better align the reward system. Organizations that routinely misalign their reward system with their goals will fail to recognize the hindrances to goal achievement and reward undesirable behaviors that they want to avoid. Such organizations are vulnerable because it is predictable that the members will do what is rewarded, even though organizational management believes it is moving toward goal achievement.

Relevant Research Literature

The work by Kerr that this discussion is based upon is a classic in the organizational literature. It will show up in a variety of arenas and is discussed widely. A reprinting of the original article is perhaps the best source for understanding the breadth, depth, and influence of the folly of rewarding A while hoping for B in organizations (Kerr, 1995).

Kerr, S. (1995). On the folly of rewarding A, while hoping for B. *Academy of Management Executive*, 9, 7-14.

Q6: Motivation of Members

To what extent are organizational members motivated to pursue the organization's goals and objectives?

Response Scale: Extremely unmotivated toward the organization's goals and objectives –
Extremely motivated toward the organization's goals and objectives

Summary

The reward and motivation subsystem works in a variety of ways to facilitate the organization's accomplishments of its mission, goals, and objectives. The motivation of the organization's members in pursuit of the organization's goals and objectives is critical for achieving them. There are extensive literatures focusing on motivation (e.g., theories, conceptualizations, integrations). This overview will take a "work motivation" perspective for the discussion of motivation (Pinder, 1984, 2008). From this perspective, the members of an organization are motivated to pursue organizational goals and objectives because of conscious influences that suggest there is reasonable personal value associated with pursuing these goals and objectives. When trying to understand how member motivation influences their pursuit of organizational goals and objectives, a number of factors can be considered. One critical issue is whether the members have the *ability* to behave in a fashion needed to achieve the goals. For organizations to ensure this, selecting members with the right talents or training members may be necessary (see KSA subsystem). Also, the organization's members should have the *intention* to behave in the ways needed to achieve the goals. Generally, the members will have these intentions if: (a) they perceive that, specifically for them, there are positive outcomes associated with their working to achieve the goals, (b) behaving in the ways needed to achieve the goals will result in these valued outcomes, (c) they have the capability of behaving at the level needed to achieve the goals, (d) their determination to behave in ways needed to achieve the goals will not be thwarted or hindered to such an extent that they believe goal achievement is unlikely, (e) they perceive that the resources, tools, energy, time, and organizational support is available so that goal achievement is likely if they engage in the required levels of behavior or performance. To a large

extent, the motivation of members to pursue the organization's objectives and goals are a function of the perceived personal costs and benefits to the member of pursuing those goals and objectives.

The literature also makes clear that factors *external* to the person influence how member motivation contributes to the achievement of organizational goals and objectives. As noted above, having the needed *resources* available in the organization is one critical factor. Even if the members are motivated to pursue the goals, if the resources needed to do so are absent, the goals will not be achieved. Another organizational variable is *support* from management and the organization for pursuing the goal. If the members' managers and the organization itself are not supportive of them doing what is needed to achieve the goals (e.g., by changing the way things are done), then goal achievement will be thwarted. Relatedly, the organization's *procedures, policies, and processes* might also interfere with the member's means of contributing. Features of the *tasks* members perform can also hinder their motivation to pursue the goals and objectives. If tasks are extremely demanding (at the limits of capabilities), ambiguous, uninteresting, or require intense levels of collaboration, the motivation of members to perform the tasks can diminish. The ways in which the *goals* are specified also influences how motivated members will be to pursue them. If the goal is unclear, or without some time parameters, then goal pursuit diminishes. Goal difficulty is also important. Managers must tailor the goals members pursue to match their abilities and experiences. Goals must be sufficiently challenging to result in superior performance, but not so difficult that the members deem them impossible and do not even strive to achieve the goal. This short list of external factors indicate that in addition to the motivation of the members on the tasks, attention also has to be paid to the conditions under which the tasks are performed to understand how member motivation will influence the achievement of organizational goals and objectives.

From the discussion above, it should be clear that members will be more likely to be motivated in pursuit of organizational goals and objectives if they perceive they will be personally rewarded for doing so. Managers often believe they know what motivates their subordinates but fail to actually gather the evidence needed to validate this knowledge (e.g., 'a challenging task motivates me so it must motivate my subordinates; 'money isn't everything, so I don't need to attend to salary and raises'). Research clearly indicates that individuals differ greatly in what motivates them to perform, and managers need to pay attention to these differences in motivational profiles of their different subordinates.

Organizational leaders sometimes claim that their members are not motivated. However, the leader focuses only on the members' motivation toward achieving the organization's goals and objectives. These leaders fail to realize that the members might actually be highly motivated, but that motivation is not directed at achieving desired organizational outcomes. Because members can be motivated in many and unique ways, they can easily be lured or distracted toward behaving in other ways that do not foster, and may impede, the achievement of the organization's goals and objectives. Consequently, organizations and their managers need to make sure that the rewards provided are personally valued by the individual members and that these rewards result from the members' behaving in the ways needed for the organization to achieve its goals and objectives.

Relevant Research Literature

As mentioned above, there are a number of approaches to motivation. This overview draws upon a number of these approaches (e.g., expectancy theory, behavioral intentions, goal pursuit).

Organizational behavior textbooks (e.g., Wagner & Hollenbeck, 2009) will give a general overview similar to the approach taken in this overview. Also, Pinder (1984, 2008) will provide a good summary of the individual approaches that are integrated in this overview.

Pinder, C.C. (1984). *Work motivation: Theory, issues, and applications*. Dallas, TX: Scott, Foresman and Company.

Pinder, C.C. (2008). *Work motivation in organizational behavior* (2nd ed.). New York: Psychology Press.

Wagner, J. & Hollenbeck, J.R. (2009). *Organizational behavior*. New York: Routledge.

Q7: Overall Morale of Members

What is the overall morale of the members of the organization?

Response Scale: Extremely negative morale – Extremely positive morale

Summary

The morale of the members of an organization is believed to have an important impact on the way the members behave toward the organization and the duties they perform. Morale can influence job satisfaction, organizational commitment, and job involvement. All of these morale-related topics can be considered as the job and work-related “attitudes” that an organizational member has toward his/her work duties, job or position in the organization, and the organization itself. These attitudes can influence members’ actions at work in organizations, although the effects are not as direct and as strong as some would believe.

It is widely held that the more satisfied or happy people are with their jobs, the better their performance will be on the job (i.e., job satisfaction leads to job performance). Likewise, the more dissatisfied workers are with their jobs, the poorer their performance will be. Although there is a relationship between satisfaction and performance, it is not that strong (Brief, 1998; Spector, 1997). Also, it may well be that better performing workers might be more satisfied. These high performers will get the rewards that come from their higher performance, resulting in strong motivation to perform well. These higher performers will also have the pride that comes from doing a job well. So, it is important to recognize that over time, performance-satisfaction spirals can occur in both directions. Higher levels of performance and greater satisfaction can spiral upwards, but if performance declines (e.g., for reasons outside of the workers’ control), satisfaction might likewise spiral downward.

Other work-related behaviors and outcomes have also been associated with the work-related attitudes (e.g., job satisfaction). There is a general assumption that people who are happy with their work are less likely to be tardy or absent from work without an excuse (i.e., absenteeism). Research indicates, however, that this relationship is tenuous, primarily because there are many other factors that can contribute to absenteeism (Rhodes & Steers, 1990). In contrast, the research literature does show that how people think and feel about their work and the organization they work for (i.e., organizational commitment) does influence whether they intend to stay or leave the organization (Mowday, Porter, & Steers, 1982). People who are dissatisfied with their work or the organization they work for are likely to try to find ways to leave (i.e., search for alternatives) and consequently are more likely to leave the organization when they have a viable alternative organization to join.

These examples have focused on how the thoughts and feelings of individual members of organizations influence their behavior in the organization. It is also informative to examine the relationship at the organization-wide level. That is, the general ways in which organization members feel about their roles in the organization and the organization itself (e.g., morale in the organization) impact overall organizational effectiveness. Again, the relationship is not as strong as some suspect, and the relationship is not direct (e.g., environmental forces also influence organizational effectiveness), but the general morale of members of the organization is associated with the overall effectiveness of the organization and ability to remain competitive as well as its capability to respond to changes that may be confronting the organization (Brief, 1998).

Managers and organizations that ignore the importance of the members’ thoughts and feelings toward their positions and the organization do so at their peril. As the notion of spirals mentioned

above indicates, the patterns of morale and organizational outcomes can spiral upwards and downwards. Also, it will take time for high levels of morale and organizational outcomes to be achieved, but the relationship suggests that it might be difficult to impede downward spirals as well. It is important to note that morale and organizational outcomes are quite subject to external forces and influences. So, organizations and their managers have to pay attention to these outside forces if they want to build and preserve the strong morale among the organizational members and derive the benefits in terms of organizational outcomes associated with this good morale.

Relevant Research Literature

There are substantial research literatures that examine the relationships between morale and organizational outcomes. Consequently, most organizational behavior (e.g., Wagner & Hollenbeck, 2009), management (e.g., Griffin, 2012), and human resource management (e.g., Noe, Hollenbeck, Gerhardt, & Wright, 2010) textbooks will have a good coverage of these relationships. More detailed discussion of general work-related attitudes can be found in Brief (1998). Spector (1997) focuses specifically on job satisfaction. Organizational commitment is introduced and discussed by Mowday, Porter and Steers (1982).

Brief, A.P. (1998). *Attitudes in and around organizations*. Thousand Oaks, CA: Sage.

Griffin, R.W. (2012). *Management* (11th ed.). Mason, OH: South-Western Cengage Learning.

Mowday, R.T., Porter, L.W., & Steers, R.M. (1982). *Employee-organization linkages: The psychology of commitment, absenteeism, and turnover*. New York: Academic Press.

Noe, R.A., Hollenbeck, J.R., Gerhardt, B. & Wright, P.M. (2010). *Human resource management* (7th ed.). New York: McGraw-Hill Irwin.

Rhodes, S., & Steers, R. (1990). *Managing employee absenteeism*. Reading, MA: Addison-Wesley.

Spector, P.E. (1997). *Job satisfaction: Application, assessment, causes, and consequences*. Thousand Oaks, CA: Sage.

4.13 Support & Maintenance Subsystem: Overview

The ways the organization sustains, rejuvenates, reinforces, corrects, and cares for its practices, personnel, and products.

Summary

The support and maintenance subsystem is that part of an organization comprising non-core but essential functions that sustain the organization, preserve its stability and predictability, and enable it to achieve its goals.

The support and maintenance subsystem interacts with the organization's other subsystems to ensure continuous functioning of the core components that produce goods, provide services, and achieve objectives. Its functions address technologies and processes associated with (1) the "physical plant," i.e., the physical infrastructure (e.g., ventilation, heating/cooling, water, sanitation); (2) the technical aspects of production, e.g., assembly lines or other production-related technologies; (3) the information technology (IT) and communications networks; and (4) the logistics required for goal achievement or mission execution (e.g., supplies, spare parts, transportation). But it may also provide additional services such as resolving legal issues, understanding and influencing government policy, public relations, human resources, management and labor relations, marketing and sales, payroll, medical care, food preparation, security of facilities and personnel, and others. Human resources—like several other support and maintenance functions—may also be included under another organizational subsystem. It is mentioned here because of its importance in sustaining an organization. Included in human resources are personnel selection (i.e., hiring/recruiting/retaining the "right" people), training and indoctrination, and motivators (e.g., rewards/perks, work structure, and work environment) (Mintzberg, 1983, pp 16-18; Katz & Kahn, 1978, pp 52-54).^{31,32}

The support and maintenance subsystem is likely to be larger in large organizations to meet a wider range of needs. Although described as a single entity, it may not be a single "system" or "unit," but a variety of diverse functions scattered throughout an organization, with different functions residing in various divisions or even other subsystems (Mintzberg, 1983, pp 62-65 & 71-72).³³

The subsystem preserves equilibrium across the organization through the socialization of personnel and a system of sanctions and rewards to maintain role performance (Thomas & Casebeer, 2004, p 4). While its goal is to maintain stability and predictability within the organization, the subsystem is also responsible for promoting change when needed.

Organizations that do not adapt to their environments, cannot transform themselves into useful and competitive entities, and do not correct internal problems, usually cease to exist. Thus, in many organizations, the support and maintenance subsystem has opposing objectives: stability vs. change. If the subsystem fails with either, organizational death may result.³⁴

Support and maintenance failures and errors can result not only in failure of the organization to achieve its objectives, but also general frustration and demoralization of all members. Specific

³¹ Thomas & Casebeer (2004, p. 3) mention that even the *execution* of individuals perceived as threats to the organization is a function of the support and maintenance subsystem in certain adversarial organizations.

³² Mintzberg (1993, pp 156-162) describes the educational system as a maintenance subsystem for society.

³³ Haroun & Duffuaa (2009, pp 9-10) describe several organizational models for support and maintenance subsystems.

³⁴ For a discussion of transformation and organizational death, see Hall, 2002, pp 187-200.

failures may include an organization's inability to: (1) produce goods and services without interruption; (2) recruit and train qualified individuals; (3) maintain a steady supply of resources as input to the production process, or stockpile sufficient materials needed when supplies are disrupted; (4) provide stable and predictable services such as IT and network support or communications throughout the organization; or (5) meet payroll.

Places to look for vulnerabilities in the support and maintenance subsystem include: labor and management relations; the personnel reward system (base pay, incentives, and benefits); the cost of support and maintenance to the organization; how support and maintenance personnel are viewed by management; workload; shortages of supplies or qualified personnel; and the quality and structure of the subsystem's management.³⁵

Relevant Research Literature

Cuevas, E. & Lobban, R. (2009). *Somalia: Line in the Sand. Identification of MYM Vulnerabilities*. Africa Security and Threats Paper, Naval War College, September 2009.

<http://www.dtic.mil/dtic/tr/fulltext/u2/a520730.pdf>

Hall, R.H. (2002). *Organizations: Structures, Processes, and Outcomes, Eighth Edition*. Prentice Hall: Upper Saddle River, NJ 07458.

Haroun, A.E. & Duffuaa, S.O. (2009). Maintenance Organization.

<http://xa.yimg.com/kq/groups/3004572/1110786124/name/%25ee%2580%2580Maintenance%25ee%2580%2581>

Katz, D. & Kahn, R.L. (1978). *The Social Psychology of Organizations*. John Wiley & Sons: NY.

Mintzberg, H. (1993). *Structure in Fives: Designing Effective Organizations*. Prentice Hall: Englewood Cliffs, NJ 07632.

Thomas, T.S. & Casebeer, W.D. (2004). Violent Non-State Actors: Countering Dynamic Systems. *Strategic Insights*, Vol. III, # 3, March 2004.

http://www.au.af.mil/au/awc/awcgate/nps/casebeer_mar04.pdf

³⁵ For a discussion of specific vulnerabilities associated with organizational subsystems, see Thomas & Casebeer, 2004, pp 5-8, and Cuevas & Lobban, 2009, pp 3-10.

Q1: Social Relations, Interpersonal Interdependencies, and Coordination Activities
How favorable are the social relations, interpersonal interdependencies, and coordination activities among members of the organization?

Response Scale: Extremely unfavorable – Extremely favorable

Summary

Social relations, interpersonal interdependencies, and coordination activities are elements of the “informal organization” that develops among two or more associated individuals or specialized subgroups inside a formal organization (Galbraith, 1968, pp 7-45; Harvey, 1968, pp 249-250). *Social relations* are how people in an informal organization interact with each other (i.e., their behavior toward each other), and how they view each other. These relations may be considered to be “friendly,” “courteous,” “helpful,” “cooperative,” “competitive,” “adversarial,” “hostile,” “belligerent,” etc. *Interpersonal interdependencies* refers to the notion that individuals in workgroups need each other’s help or collaboration (e.g., teamwork) to accomplish tasks.

Coordination activities refers to a workgroup’s planning and temporal sequencing of team tasks to enable or optimize their execution (Hall, 2002; Galbraith, 1968, pp 7-12).

Understanding the informal organization is important for at least three reasons: (1) The informal organization gives members a sense of belonging; (2) it is through the interactions within the informal organization that members get to know the expected behavior and understand the sanctions against inappropriate behavior; and (3) since formal organizations don’t specify every detail of how to perform a job or task, organizational goals are achieved mainly through the cooperation, coordination, and group decisions of individuals working together in the informal organization. Interpersonal interdependencies and coordination activities are facilitated by positive social relations. Communication among members reinforces “the vision” of the organization. This promotes its legitimacy and helps to sustain it.³⁶

Social relations are not usually governed or managed by the leaders and decision-makers in the formal organization unless they start to be viewed as detrimental to the organization. Individuals in groups with positive social relations like to work together; this fosters cooperation, creativity, efficiency, productivity, and safety. Workgroups with good social relations may compete against each other in a friendly way, and this can increase the organization’s productivity. However, excessive competitiveness among internal groups can be destructive and managers may have to take steps to avoid this.

Social relations, interpersonal interdependencies, and coordination activities should be of interest to analysts because they are indicators of the effectiveness, innovation, and efficiency of an organization. These elements are indirectly related to the happiness and satisfaction of the general members of an organization, and may provide insight to their loyalty. They may also be indicators of the extent to which members have internalized the vision, mission, ideals, and values of the organization.³⁷

³⁶ See Hall (2002) and Scott (2003) for discussion of cooperation, interpersonal interdependencies, coordination, and related topics.

³⁷ Matis (2010) provides a theoretical analysis of social relations and activities as maintainers of the culture of military organizations.

Disruptions in social relations would have serious impact on interpersonal interdependencies and coordination activities. The negative effects would be likely manifest themselves in reduced productivity, efficiency, and effectiveness of the organization. Without a quick remedial response from the support and maintenance subsystem, the organization could soon fail in its mission and goals, and become uncompetitive.

Relevant Research Literature

Galbraith, J.R. (1968). Environmental and technological determinants of organization design: A case study. Boeing Research Project Report #352-68. Retrieved 9-28-12 from:
<http://archive.org/details/environmentaltec00galb>

Hall, R.H. (2002). *Organizations: Structures, Processes, and Outcomes, Eighth Edition*. Prentice Hall: Upper Saddle River, NJ 07458, pp 172-173, 196, 222-228.

Harvey, E. (1968). Technology and the structure of organizations. *American Sociological Review*, 33, 2, pp. 247-259. Retrieved 9-15-12 from: <http://www.jstor.org/stable/2092391>

Matis, J. (2010). Social relations and activities – part of the culture of a military organization. *Science & Military Journal*, July 1, 2010.
<http://www.readperiodicals.com/201007/2235068741.html>

Scott, W.R. (2003). *Organizations: Rational, Natural, and Open Systems. Fifth Edition*. Prentice Hall: Upper Saddle River, NJ 07458, pp 96-97, 234-246, 270-271.

Q2: Reward of the Support and Maintenance Functions

How much are the maintenance and support functions of the organization rewarded?

Response Scale: Not rewarded at all – Almost always rewarded

Summary

This topic relates to (1) how well members of the support and maintenance staff are compensated; (2) how much an organization values the support and maintenance subsystem; and (3) the resources dedicated to the support and maintenance functions.³⁸

Support and maintenance are usually an overhead function. In a competitive environment, the organization may not be able to pass on to clients the entire cost of support and maintenance for its various processes and other subsystems. Organizations, especially those with limited resources, usually try to minimize the cost of support and maintenance. Yet, personnel are motivated and retained by tangible rewards—e.g., those that attracted them to the organization in the first place (e.g., decent salary, a sign-on bonus, or promise of future rewards and promotions), and those that keep them working day-to-day (e.g., regular paycheck and incremental “raises”). Members also need resources for doing their jobs (e.g., equipment, spare parts, supplies, tools, training). Some members may be recruited into support and maintenance roles by intangible rewards such as serving an organization they strongly believe in (i.e., sharing of beliefs and vision), perhaps even without ever receiving tangible rewards.³⁹ Thus, maintenance functions are sometimes voluntary (such as in non-profit organizations), but paid support and maintenance functions tend to be more predictable (Ellis, 1999).

Organizations normally incur certain costs in support and maintenance functions. Organizations unwilling or unable to endure such costs will likely have poorer performing support and maintenance capability. Consequently, some functions and systems may not have the required reliability and won’t work when needed.⁴⁰ Organizations that view the support and maintenance functions as valuable in sustaining the organization’s competitiveness may devote more resources to these functions. Organizations could demonstrate the value of its support and maintenance subsystem by objectively comparing the cost of maintaining the subsystem to the benefits derived from it. Alternatively, the value could be derived from the *perceived* need for the functions that the subsystem performs by the organization and its members. For example, hours spent on training should be relatable to critical organizational outcomes. It is possible that organizations that can demonstrate a high benefit/cost ratio will value their support and maintenance subsystem more highly than those organizations with a high cost/benefit ratio. Because of differences in their size, purposes, and structures, some organizations have greater dependence on the support and maintenance subsystem than others. Large military and production-oriented organizations probably have the greatest need for this subsystem, although large service organizations such as internet service providers, the utilities, hospitals, colleges, and much of the transportation industry are also highly dependent on their support and maintenance subsystems. It is likely that in such organizations, the value of the support and maintenance functions are well known and fully appreciated by the decision-makers. On the other hand, in many small or ad-hoc organizations, there may be few support and maintenance requirements *per se*, although such functions may be performed as part of the members’ normal job duties, and not perceived as support and maintenance. In these types of organizations, the true value of the support and maintenance subsystem may not be realized or acknowledged.

³⁸ A general discussion of rewarding behaviors, performance, and decisions in organizations can be found in Boone & Bowen, 1987, pp 414-430.

³⁹ Haroun & Duffuaa (2009, p. 13) provide a brief discussion of incentives for personnel in the maintenance subsystem.

⁴⁰ Related reading is Franklin (2002), pp 3-13.

Over the past 30 years or so, the world has witnessed a decrease in the need for certain types of formal support and maintenance functions, thus lessening their perceived value. For example, receptionists have been replaced by automatic answering systems with extensive menus. Yet, the support and maintenance function is just as important today as it was in the past, but what passes for support and maintenance may have changed. In particular, the functions may be met by technology or by individuals who assume the support and maintenance function as part of their routine duties. Thus, organizations are likely to view these functions as less valuable because they are less visible to the decision-makers within the organization. This is perhaps especially true for small organizations.

An organization's maintenance and reward functions are necessary to attract and retain members, and keep them engaged in activities useful to the organization. The rewards may vary along a continuum from tangible to intangible. At the tangible end of the spectrum might be monetary payment for a time period worked, while at the other end might be the opportunity to interact with individuals with similar values and interests. It is likely that organizations that spend more on maintenance support are more effective and competitive. Expenditures for support and maintenance functions may also reflect an organization's attitude toward its members. A willingness to provide support and maintenance personnel with good salaries shows they are valued by the organizations' leadership.

There are several points that could be of interest for understanding the role of the support and maintenance subsystem in an organization. It is important to know the extent to which decision-makers in an organization understand and recognize the value of the support and maintenance functions. Without such acknowledgement, it is unlikely that the organization would spend its resources on these functions. It is also important to note whether the majority of rewards are tangible or intangible, and where the resources come from. Are they coming from a stable source? Are they adequate to maintain the organization? Using the resources available to it, will the organization be able to maintain its competitiveness with regard to recruiting, maintaining and rewarding an adequate number of qualified members needed to carry out its mission? Or will the members be attempted to leave for other organizations with better rewards?

Relevant Research Literature

Boone, L.E. & Bowen, D.D. (1987). The great writings in management and organizational behavior. Second edition. McGraw-Hill: NY.

Ellis, H. (1999). Principles of the transformation of the maintenance function to world-class standards of performance.

<http://www.maintenanceresources.com/referencelibrary/ezine/principles.htm>

Franklin, S. (2002). Organization and management of the maintenance function. Section 1, Chapter 1: Redefining maintenance—delivering reliability. In *Maintenance Engineering Handbook, Sixth Edition*, L.R. Higgins & R.K. Mobley (Eds). McGraw-Hill: NY.

Haroun, A.E. & Duffuaa, S.O. (2009). Maintenance Organization.

<http://xa.yimg.com/kq/groups/3004572/1110786124/name/%25ee%2580%2580Maintenance%25ee%2580%2581>

Q3: Quality of Maintenance of Organization's Facilities and Equipment

How well maintained are the facilities and equipment the organization uses for getting things done?

Response Scale: Extremely poorly maintained – Extremely well maintained

Summary

This question pertains to how well an organization's facilities and equipment are maintained, and the effectiveness of the maintenance subsystem.

The quality of support and maintenance services varies considerably across organizations. Factors affecting quality include the subsystem's authority and reporting structure, quality of leadership and supervision, compensation and other incentives, education and training, management and labor relations, and the financial resources available from within the organization (Haroun & Duffuaa, 2009).

Until the middle of the twentieth century, support and maintenance functions lacked formal techniques and modern management concepts. Maintenance was generally carried out reactively as opposed to being planned, which lead to inefficiencies. As technology became available, progressive organizations realized the need to improve their efficiency and competitiveness by modernizing their support and maintenance subsystems. But tools for improving maintenance operations are costly. Either because of these costs or a lack of foresight, some organizations failed to modernize and continued to lag behind, becoming increasingly uncompetitive (Haroun

& Duffuaa, 2009, pp 2-7).⁴¹ Numerous theories and principles have been developed for improving the quality of support and maintenance functions.⁴² Today, many online resources are available for aiding and improving maintenance functions within organizations.⁴³ Production organizations achieve their goals through properly performing equipment and facilities. Without them, production slows or stops. When IT systems are not working properly, decision-makers do not have access to essential data. When communication systems fail, members of the organization are unable to coordinate tasks. Every operation that is viewed as a maintenance function plays an important role in sustaining the organization and in insuring that it meets its objectives. While some maintenance functions can be voluntary (such as in non-profit organizations), paid support and maintenance functions tend to be more predictable (Ellis, 1999). Most large organizations have their own internal support and maintenance subsystems. Other organizations may outsource this work (Haroun & Duffuaa, 2009, p. 6).

The quality of the service provided by the maintenance support subsystem can determine the effectiveness, efficiency, and competitiveness of an organization. An organization with poorly maintained production facilities, insufficient supplies, and poorly maintained worker/member facilities and infrastructure is likely to be less competitive, and the membership less productive and less happy. It may be vulnerable to supply disruptions, infrastructure damage, malfunctions in the IT network and communication system, and production problems.

Relevant Research Literature

Ellis, H. (1999). Principles of the transformation of the maintenance function to world-class standards of performance.

<http://www.maintenanceresources.com/referencelibrary/ezine/principles.htm>

Hall, R.H. (2002). *Organizations: Structures, Processes, and Outcomes, Eighth Edition*. Prentice Hall: Upper Saddle River, NJ 07458.

Haroun, A.E. & Duffuaa, S.O. (2009). Maintenance Organization.

<http://xa.yimg.com/kq/groups/3004572/1110786124/name/%25ee%2580%2580Maintenance%25See%2580%2581>

⁴¹ For a discussion of transformation and organizational death, see Hall, 2002, pp 187-200.

⁴² For example, see Ellis (1999).

⁴³ For example, see <http://www.maintenanceresources.com/referencelibrary/index.htm> and <http://www.maintenanceresources.com/productsshowcase/index.htm>.

Q4: Maintenance of Organization's Technologies and Processes

How well maintained are the technologies and processes the organization uses to get things done?

Response Scale: Extremely poorly maintained – Extremely well maintained

Summary

This question pertains to how well the Support and Maintenance Subsystem sustains an organization's technologies and processes. "Technologies" typically refers to an organization's systems of transforming some forms of inputs into durable outcomes that solve a problem or issue for the organization and/or its clients. "Processes" generally refers to the means of accomplishing tasks that involve procedures, standardization of operations, and behavior routines which are part of the means of accomplishing the task. However, "processes" may also refer to various means used in production (e.g., painting process, assembly process, stamping process, patient admitting process, etc.) which may also be considered as technologies.

Generally, an organization's technologies and processes require maintenance to stay current and fully functioning. For example, changes occur rapidly in information technology. New breakthroughs occur in technologies related to the research and development of products to be manufactured, and in the manufacturing processes themselves. New tools become available to help organizations achieve their goals. New technologies and processes require training for the personnel using them. New and improved training techniques may become available. It is the responsibility of the support and maintenance subsystem to be aware of such changes, the options that are relevant and available to the organization, and which ones would benefit the organization the most. This implies that the support and maintenance staff must fully understand the organization and its needs, and possess a working relationship with the organization's decision-makers. It is also important to recognize that support and maintenance personnel are often relied on to implement the changes and help the organization make the transition to the new technologies and processes. The quality of the support and maintenance functions for technology and processes is important in facilitating change. Knowledgeable staff would know when new breakthrough technologies and more efficient processes become available, their impact on the organization, and how to make the best use of them.

Without an effective support and maintenance subsystem for the organization's technologies and processes, the organization would likely become less competitive over time. While an organization that doesn't embrace changes in technologies and processes might still be able to fulfill its mission, it may do so more slowly or in a more costly and less competitive fashion. In some cases, the organization may have difficulty fulfilling its mission if tools, technologies, and processes become obsolete and incompatible with current needs. In these cases, updating and upgrading may be essential just to maintain the status quo.

The willingness of an organization to spend resources to assure or improve the quality of the support and maintenance of an organization's technologies and processes may be affected by several factors. First, the leadership must acknowledge that in a general sense organizational change is inevitable for long-term survival. Second, leaders generally must have knowledge that some aspects of the organization are not working as well as they should, or that the organization soon will be facing specific challenges to its competitiveness or survival. Third, management must be able to define the problem(s) or challenges, visualize the solution(s), and understand the consequences of inaction. Fourth, decision-makers need an awareness of the role that the support and maintenance subsystem plays in bringing about necessary changes in the organization's technologies and processes. And fifth, the necessary resources have to be available to devote to the support and maintenance subsystem.

Not all organizations place the same value on having quality support and maintenance of its technologies and processes. It is likely that the organizations having the most sophisticated processes and technologies will place the most emphasis on quality of maintenance and see it as instrumental for staying competitive and successful. Because the support and maintenance subsystem has widespread influence across the entire organization and is involved in change within the organization, an understanding of the quality of the support and maintenance for technologies and processes will help us understand some of the more subtle features of how the organization operates and functions.

Relevant Research Literature

Ellis, H. (1999). Principles of the Transformation of the Maintenance Function to World-Class Standards of Performance.

<http://www.maintenanceresources.com/referencelibrary/ezine/principles.htm>

Haroun, A.E. & Duffuaa, S.O. (2009). Maintenance Organization.

<http://xa.yimg.com/kq/groups/3004572/1110786124/name/%25ee%2580%2580Maintenance%25ee%2580%2581>

Mayfield, M. (1992). *Measurement of Combat Effectiveness During Peacetime Preparation for War*. U.S. Army War College, Carlisle Barracks, Forbes, Ave., Root Hall, Bldg 122, Carlisle, PA 17013-5050. <http://handle.dtic.mil/100.2/ADA250920>

Q5: Funding of Organization's Support and Maintenance Functions

How well funded are the organization's support and maintenance functions?

Response Scale: Extremely poorly funded – Extremely well funded

Summary

This topic refers to the resources available to an organization's support and maintenance subsystem for recruiting, training, and motivating qualified personnel; and for acquiring equipment, tools, technologies, and parts as needed for performing its functions. Hall (2002, p. 247) also briefly mentions the issue of where the money comes from, i.e., what is the source?

Organizations normally incur certain costs in maintenance and support functions. Organizations unwilling or unable to endure such costs will likely have poorer performing support and maintenance capability. This means some functions and systems may not have the required reliability and won't work when needed.⁴⁴

It is likely that organizations that spend more on support and maintenance are more effective and competitive. Expenditures for support and maintenance functions may also reflect an organization's value for the support and maintenance functions. A willingness to dedicate resources and other organizational funds to provide support and maintenance shows it is valued by the organizations' leadership. Part of the support and maintenance subsystem depends on motivated and talented personnel. If these organizational members who provide support and maintenance perceive a positive attitude toward them and what they contribute to the organization, it is easier to continue providing quality support and maintenance. Highly qualified technical personnel often can choose for whom they work. They gravitate from lower-paid positions to higher-paid ones in other organizations. Thus, to retain technical talent, organizations have to have the wherewithal and desire to provide attractive salaries and benefit packages.

Funding for support and maintenance functions usually come from the organization's "overhead" budget. In a competitive environment, the organization may not be able to pass on to the customer the entire cost of support and maintenance subsystem, which reduces profitability. Therefore, organizations—especially those with limited resources—usually try to minimize the cost of support and maintenance while still doing what is necessary to attract and retain qualified technical staff, and assuring that the required services are provided.

The analyst may be interested in knowing how well the support and maintenance subsystem is funded as an indicator of the effectiveness of the subsystem and the organization as a whole, and if qualified personnel are likely to leave the organization for a competing one. Given the enormous influence that this subsystem has in many organizations, it would be good to know the source of funding, and the vulnerability of the source.

⁴⁴ Related reading is Franklin (2002), pp 3-13.

Relevant Research Literature

Franklin, S. (2002). Organization and Management of the Maintenance Function. Section 1, Chapter 1: Redefining Maintenance—Delivering Reliability. In *Maintenance Engineering Handbook, Sixth Edition*, L.R. Higgins & R.K. Mobley (Eds). McGraw-Hill: NY.

Hall, R.H. (2002). *Organizations: Structures, Processes, and Outcomes, Eighth Edition*. Prentice Hall: Upper Saddle River, NJ 07458.



**DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY
WRIGHT-PATTERSON AIR FORCE BASE OHIO 45433-7008**

04 October 2016

MEMORANDUM FOR DTIC

8725 JOHN J. KINGMAN ROAD
FORT BELVOIR, VA 22060-6218

FROM: 711 HPW/OMA (STINFO)
2947 Fifth Street
Wright-Patterson AFB, OH 45433-7913

SUBJECT: Request to Change the Distribution Statement on a Technical Report

This memo documents the requirement for DTIC to change the distribution statement on the following technical report from distribution statement C to A, Approved for Public Release; distribution is unlimited.

AD Number: ADB402465

Publication number: AFRL-HE-WP-TR-2014-0104

Title: Decision Vulnerability Analysis (DVA) Program

Reason for request: The limited distribution statement was established early in the effort based on the expectation that sensitive vulnerability analysis methods would result from the effort; however, this never occurred due to the refocusing on organizational profiling. The method/tool resulting from the DVA effort, “Organizational Profiling Tool for Influences Analysis (OPTIA)” is completely based on publically available/documentated psychology theories. My recommendation is to have this document status changed to Distribution A, Approved for public release: distribution unlimited.

Donald Denio
DONALD DENIO
STINFO Officer
711th Human Performance Wing